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Personnel

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(Continued on last page)

Personnel
FEBRUARY—MAY, 1932

Volume 8 Numbers 3 and 4

The Supply of and Demand for College Graduates*

By

R. I. Rees, *Assistant Vice President, American Telephone and Telegraph Company*
J. E. Walters, *Director of Personnel, Purdue University*
F. F. Bradshaw, *Dean, University of North Carolina*
N. M. McKnight, *Associate Dean, Columbia University*

Introduction

IN THE ten years between 1920 and 1930, the number of men and women at the average age of college graduation increased about 20 per cent; the number of those actually being graduated from college more than doubled. Back of this almost startling increase was a determination to go to college in boys and girls at economic levels little touched by it before the war. Their motives in this new adventure must have been most varied. Some wished to pursue an intellectual interest aroused in high school; others to prepare for a definite profession which deeply appealed to them; not a few others inevitably believed that a college education would bring tangible rewards through increased earning power and social prestige. To this end, they and their parents were ready to make stern sacrifices.

The rapid increase in enrollments created new and pressing problems for the colleges and universities. Their facilities were over-taxed, their costs greatly increased, the complexion of their student bodies was changed, new curricula and new methods seemed imperative.

At the same time, business became far more conscious than before that the colleges were a fruitful source of material for future supervisory and technical positions. For certain special types of personnel, they became almost the sole source. Their ability to provide many outstanding men of general training but great potentialities was also recognized. Despite the rapid increase in the number of graduates, there was far more competition for good men of special training and for exceptional men, regardless of training, in 1929 than there had been in 1920.

* This and the following papers were presented at the A. M. A. Personnel Conference held at the William Penn Hotel, Pittsburgh, Pa., Feb. 16, 1932. The February and May issues of PERSONNEL have been combined to include the complete proceedings of this day's conference devoted to College Graduates in Business.

The object of the publications of the American Management Association is to place before the members ideas which it is hoped may prove interesting and informative, but the Association does not stand sponsor for views expressed by authors in articles issued in or as its publications.

What sort of position and salary may the graduate of today who has worked hard for his degree look forward to ten years from today? What sort of training will give him the best opportunity? How far should the university go in attempting to carry through four years of training many of those who now fail during the first semester? What economic return may the taxpayer expect for additional millions put into higher education? Can business and industry look to the colleges for much or little of its future leadership and highly trained special personnel?

Of course, there may be several good answers to each of these questions. Perhaps the existing economic structure does not provide suitable places for the 60,000 or 70,000 young men graduated from college each year but these men may be able to change that structure so that their places in it will be created. If industry cannot find in the colleges the men of the special training needed or the potentialities required, it may give that training or develop latent potentialities within its own rank and file. It has done that for years and insists on continuing to do it so far as those potentialities are available. In few organizations today are over half of the principal positions held by college graduates. Nevertheless, to the extent that the educational and industrial organizations of the country can be synchronized and coordinated, there will be less waste and more realization on individual abilities. To that extent, a broad view of the situation should be worthwhile.

If this view is to give any sharpness of detail, however, it must focus entirely on the problems of the men graduates. If the uncertainties of social evolution are added to those of economic evolution, nothing but a blur will result.

In fact, at best, a clear-cut picture of the situation for the male graduates is almost impossible. At every step of the study, assumptions and estimates have been necessary; many of them affect the result substantially. To justify them would certainly be difficult. Yet each one represents the best judgment of the authors; within rather broad limits we feel confident of the final results. At any rate, their presentation will make concrete the elements in the problem and the method of attack upon it.

Conclusions made in this study, of course, are based on a first and greatest assumption, that by 1937, the world will not be totally different from what it was in 1927, that the population will increase, its standards of living, in the long run, will gain, even that curtailment of production and consumption today will mean its expansion later on. In fact, on the whole, the effects of the past two years have been ignored, solely because we feel unable to appraise them. Perhaps for this reason, we have concentrated on the long-time situation and treat very briefly that which is facing us today.

Therefore we shall discuss:

I. a. The trend of college graduation for men from 1910 to 1940, regardless of the types of training received.

b. For the same period, the trend in the number of those positions which college men enter shortly after graduation, as obtained from the Census, and the relation between their number and the number of graduates.

c. For 1920 to 1940, the trend in the number of those positions which college graduates enter about ten years after graduation, as obtained from income tax reports, and the relation between their number and the number of graduates.

II. From the data available, the relations between the number of graduates of each broad type of college training, their occupations and the current demand for their services.

III. The effect of the business cycle on the supply of and demand for graduates, and the present situation.

Finally, general conclusions will be drawn.

Number of College Graduates

Figure 1 shows the trend in the supply of male college graduates from 1910 to 1930 and an estimate of that trend until 1940. Included in the figures shown are all men graduated from collegiate courses, from four-year degree granting teacher training courses and those graduates of courses in law, medicine, dentistry and theology who probably had not previously received collegiate degrees in recent years, estimated as half of all those receiving those professional degrees. As the study of the later occupations of the graduates will include the professions, it is necessary that men preparing for them be included; on the other hand, our method must avoid counting anyone twice.

The scale at the left of Figure 1 and the curve upon it show the number of men being graduated each year. They bring out the moderate rise prior to the war, the slump during the actual war years, and the very rapid increase from 1920 to 1930. In estimating the trend to 1940, study of the trends in high school graduation and of the relation between it and college graduation four years later has been helpful. Graduation from high school has been increasing distinctly more rapidly than that from college and this rate of increase still shows no diminution. At the same time the proportion of high school graduates who complete college courses four years later has fallen off somewhat and will probably continue to do so during the next decade.

During the whole period shown then, the number of men being graduated from college has a little more than tripled. The ratio between the number of graduates and the number of native-born white males 22 years old has doubled. In 1910 and 1920, that ratio was a bit less than four per cent, in 1930 about seven per cent, and in 1940 will be nearly eight per cent.

The columns on the chart measured by the right hand scale show the number of living graduates under 69 years of age at ten year intervals, as

calculated from the number of men graduated, by use of the American men mortality tables. For college graduates, these tables are likely to give slightly higher mortality rates than actual. On the other hand, many men undoubtedly retire before age 69 and these two errors will tend to cancel out.

These columns show a trend very similar to that for the number of

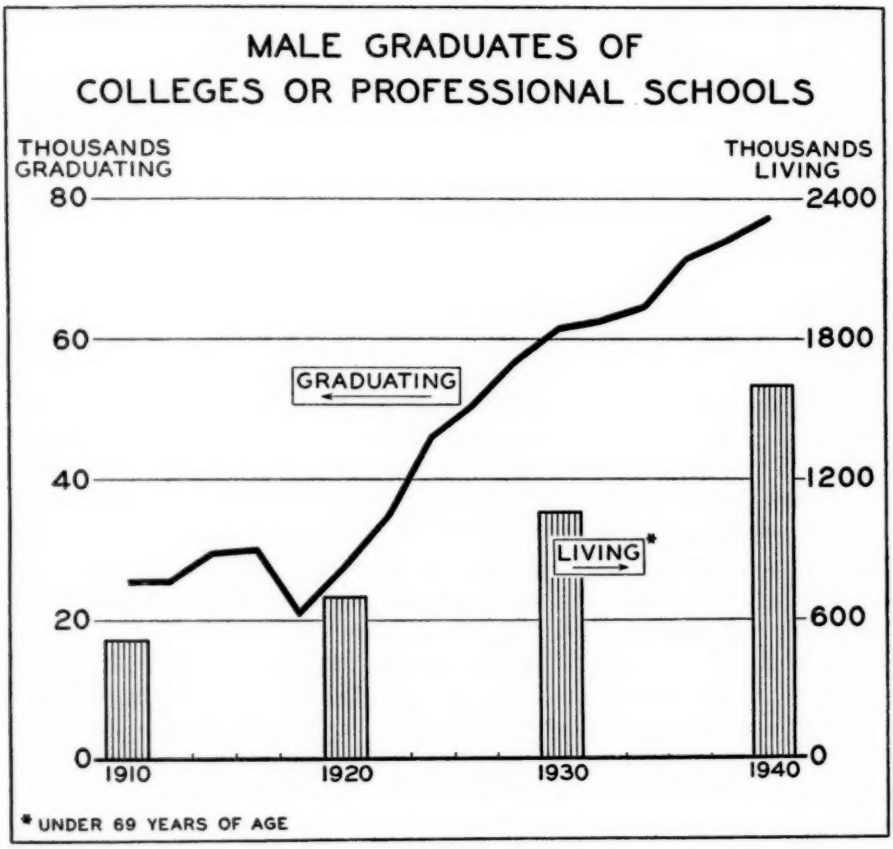

FIGURE 1

men graduated each year. As compared with the total number of men in gainful occupations, the percentage of graduates living shows an increase from 1.7 per cent in 1910 to just under four per cent in 1940.

Number of Supervisory, Staff and Professional Positions

Any attempt to study the positions available for college graduates involves examination of the occupation statistics of the United States as compiled by the Bureau of the Census. From them may be selected such groups as foremen and overseers, managers and superintendents, manufacturers and

officials in the manufacturing and mechanical industries, and similar groups in transportation and communication; bankers and brokers, insurance agents and officials, salesmen except in stores, etc., in the group of businesses called trade; and somewhat comparable groups under the classifications, professional service and clerical. In agriculture and forestry, domestic and personal service, and public service, it is difficult to segregate the supervisory positions and, of course, relatively few college graduates are found in these fields.

It is recognized that any such selection of positions will include many of doubtful calibre, that the practices of Census enumerators vary greatly, and that nothing but the most general totals will be useful. Of course, by including the same groups in successive Census reports, we obtain some idea of the trends and this in itself has value.

Unfortunately, the complete occupation statistics for the 1930 Census are not yet available and it has been necessary to make estimates from material for 15 states, none of which was large or highly developed industrially, and from a classification for the United States as a whole which was not entirely comparable with 1920. The resulting figures showed some increase over that year in the percentage of all men gainfully occupied who are in supervisory, staff and professional positions. Other evidence, however, confirmed this tendency for the transportation and communication industries but not for manufacturing. In the estimate for 1940, an estimate of the total number of men gainfully occupied in which we feel some confidence was used as a basis and the same percentage for supervisory positions was imposed on it. This percentage for 1910 and 1920 was 12.6 per cent, for 1930 and 1940, 14 per cent.

The number of positions thus found, has been compared with 90 per cent of the living college graduates under 69, at each Census year. This proportion of them is assumed to be in the fields of work included, the remaining ten per cent in those excluded or without occupation. We know such a distribution to have been true for 20,000 graduates of land-grant colleges about 1928. Of the graduates of a large eastern endowed university, less than ten per cent were found outside the selected fields but that figure is not far from correct for the country, and any attempt at further refinement would be absurd in view of the quality of our other data.

The large columns for 1910, 1920, 1930, and 1940 in Figure 2 show the total number of supervisory, staff and professional positions in the selected occupations for those years. The portion of those positions held by college graduates is shown in black and the percentage it bears to the whole is given. This percentage has increased slowly thus far but during the coming decade it will jump substantially as the number of graduates increases sharply and the rate of increase in the number of positions falls off. Even by 1940, however, this percentage will not be high enough to suggest any curtailment of opportunity at this level for the graduates.

The blocks between these columns show the number of positions which will become available during each decade because of growth in their number and the replacement of men who die or retire. In these blocks, also, is shown the number and percentage of these positions which are filled by college graduates. As is inevitable, these last percentages are higher than those in the columns, which change slowly because of the large number of men who carry over from one to the next. In fact, from 1930 to 1940 college graduates are expected to fill 42.5 per cent of all the positions becoming available. To us, this percentage is the most significant given; for the rub will come in the competition for these new jobs.

Number of Positions Paying $4000 a Year or More

Taken as a whole, the group of positions considered thus far, is not highly selected. It contains about one in every seven jobs for men in the country; many of these positions are of a minor nature, and would not long provide satisfactory opportunities for the able college graduate. It is important therefore, to determine, if possible, what is occurring at the level attained today, for example, by the average graduate after ten years of experience. To segregate those positions, however, is not easy. It can hardly be done from the general titles in the occupation statistics of the Census.

Probably the best, if not the only material available for this purpose, is that contained in the income tax reports. From them it is possible to obtain the number of men in the country with net incomes above certain figures. We can, therefore, select an income group corresponding to that usually occupied by college men about ten years after graduation. From the various studies made, it is clear that such a group would most nearly be made up of men whose incomes are $4000 a year or more.

The difficulties are immediately apparent. In the first place, the income tax reports give only the numbers of men reporting certain net incomes. Those incomes are obtained by deducting interest paid, losses, contributions, etc., from gross incomes. Examination of the reports indicates that for incomes about the $4000 level these deductions amount to approximately $1000. On the other hand, income which is unearned in the sense that it is obtained from dividends, interest, etc., at this point ordinarilly amounts to about $1000. That is, the typical man with a net income of $4000 had a total gross income of $5000, of which $4000 represented his salary or earnings from his business or profession. The number of men with net incomes of $4000 and over, therefore, seems to correspond rather closely with the number whose earnings are about $4000.

A second difficulty arises from changes in earnings levels. For this reason, it is entirely impracticable to obtain data of this sort before 1920. Since that time, however, those levels have not changed greatly, and the

error from this source is probably not serious. When, however, we talk of earnings of $4000 or over in the future, we must mean earnings which correspond to that figure now.

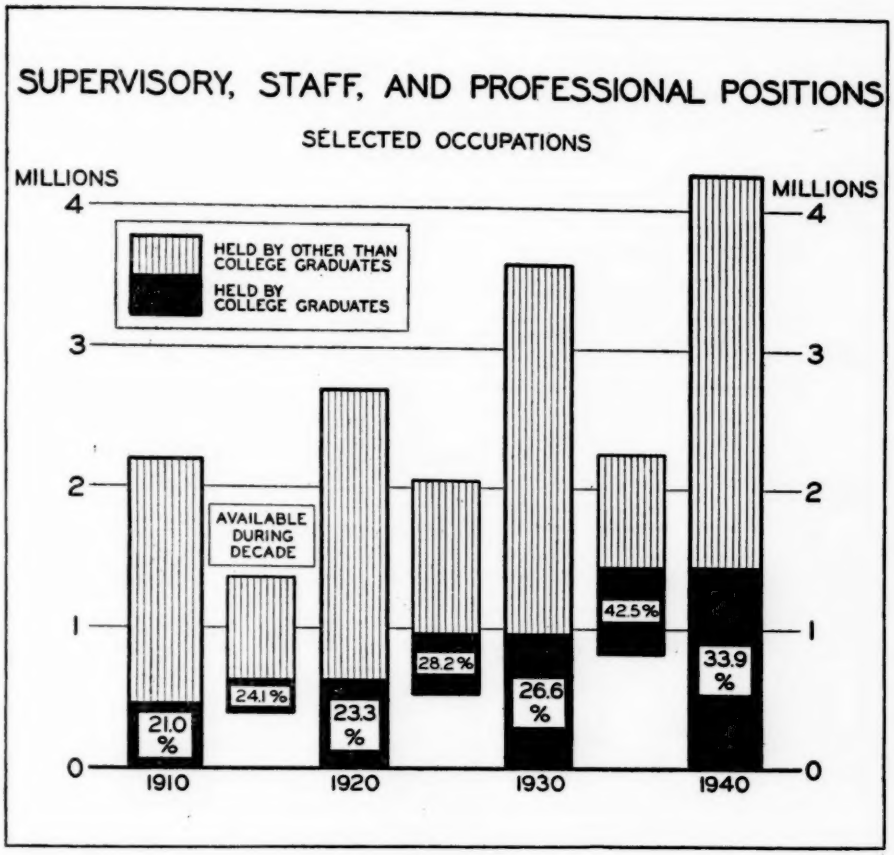

FIGURE 2

Figure 3 is constructed in the same fashion as Figure 2. The columns show the number of positions paying $4000 a year and over in the years given, and their solid portion, the number and percentage of college graduates in them. The first column, however, gives the average number of positions for 1920 and 1921; the second one, the average number for 1929 and 1930. Thus we have in each case the average for a boom and depression year, and have estimated the number of positions for 1940 by merely continuing the trend line thus obtained. This is probably the best that can be done. The number of college graduates in these positions has been computed from the distribution of all living graduates in accordance with the salary progress indicated for them by the study of 20,000 land grant college graduates.

That study checks rather well with other similar ones, and probably is the most representative material available.

The percentage of graduates in these positions is seen to be distinctly higher than in those shown in Figure 2; and again it increases substantially

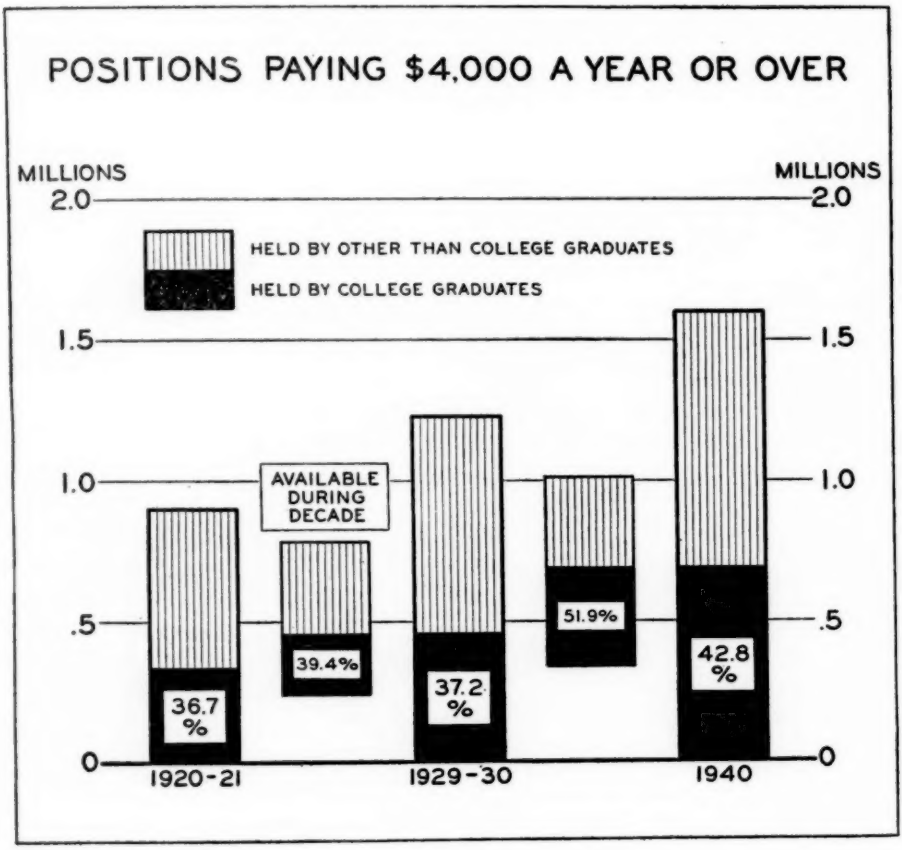

FIGURE 3

in 1940 as compared with 1930. As in that chart, the blocks between the columns indicate positions becoming available during the two decades; and here the increased percentage of graduates during the second decade is very marked. In fact, by 1940, when the graduates of 1930 will begin to reach these positions in large numbers, about 57 per cent of the available openings in them will be taken by college men.

This prediction, of course, assumes that, relative to other groups, college graduates will be making the same salary progress in 1940 as in 1930. In order to do so, they must gain somewhat more than one half

the positions becoming available at this level during the next decade. When we consider that today only seven per cent of the young men 22 years old are being graduated from college, we may question their ability to obtain 57 per cent of these selected positions ten years hence.

It is impossible to visualize either the probability or justice of this situation without comparing these graduates, not with the whole group of their fellows entering industry today, but only with men of about equal ability. But this is most difficult as adequate measures of all round ability do not exist. Intellectually, on the basis of intelligence tests which have some validity for large groups, 90 per cent of these graduates are in the top quarter of the population, 75 per cent of them are in the top seventh. Of course, this should be true because they have been selected primarily by a scholastic process. Nevertheless, when we consider the other selective factors, economic, moral, emotional, that have been at work, it is quite possible they have been equally effective. After all, 75 per cent of college graduates are now reaching positions paying $4000 or over, the top six or seven per cent of all positions held by men of appropriate ages who are gainfully employed. It is not wholly unreasonable, therefore, to assume that these men represent a cross-section of the top seventh of the population in all round ability as well as intelligence.

If this be true, figure 4 will help to visualize our problem. The left hand column in each pair shows the percentage make-up by college graduates and others of this top seventh we are discussing, as applied to the men 22 years old in 1920 and 1930. In 1920, 19 per cent of this group were being graduated from college, 81 per cent were not. In 1930, 35 per cent were being graduated, 65 per cent were not.

The right hand column in each pair shows the estimated distribution of the positions, at $4000 and over, becoming available ten years later, when at least the college men shown will be reaching them in some numbers. Of course, all the graduates of 1920 destined to reach $4000 positions will not do so in 1930 but such an assumed concentration does not alter the percentage of those positions, open to their college generation, which they will obtain. With this assumption and on the basis of the studies of college graduate salary progress, the 1920 graduates who made up 19 per cent of the top seventh of their age group, will gain 35 per cent of the $4000 positions available to it. Similarly, if the same rate of salary progress is maintained, the 1930 graduates, constituting 35 per cent of the top seventh of their age group, would gain 57 per cent of the $4000 positions available to it.

Here especially, the curtailment of opportunity for the non-graduate in this top seventh of ability is serious; he is gaining but 2/3 of his normal share of these objective positions. If the proportion of college graduates continues to increase and similar ratios hold, this curtailment must become progressively more severe. At the same time, the non-graduate group is

becoming better trained, a higher proportion of them are high school graduates, more and more of them are taking technical and other evening courses of college grade. On the whole it seems inevitable that the least able graduates who now attain these positions will be displaced by men from the other group, the proportion of all graduates who reach them will decrease and, with it, the relative salary progress of the graduate group will decline.

As a matter of fact, the land grant college study, mentioned previously, indicates that such a tendency has already begun, in that college graduate salaries between 1914 and 1928 did not increase as rapidly as the cost of living, wages or other salaries where data concerning them were available.

If this tendency continues, naturally it will generally be the least able graduates who will fail to secure $4000 positions. On the other hand, it can be arrested, should better selective processes in the colleges eliminate these men and should they continue to grow by attracting a larger proportion of the very ablest men than is now the case. Even today, less than half of the best tenth of the young men reaching maturity are being graduated from college. To the extent that the colleges become more and more the training ground of the ablest men available, their graduates can hold their present economic position. Less and less, however, can the mediocre college graduate hope to capitalize economically on that training.

Demand for Graduates of Different Types of Training

Thus we have arrived at some general idea of the future balance between the total supply of college graduates and the available openings for them. It is clear that the difficulties already encountered make it almost impossible to break down this general picture and even indicate what special kind of college training is likely to be most in demand in the future. Figure 5 indicates the relation between the number of present graduates from the various curricula and the present occupations of former graduates now living. The left hand column of this chart shows that 36 per cent of the 1930 graduates obtained training for one of the learned professions or for educational work. The right hand column shows that 33 per cent of the graduates living today are in these two types of work. Again the left hand column indicates that 22 per cent of the 1930 graduates were preparing definitely for business or industry and that 42 per cent more were taking general courses, many of them in preparation for these fields of work. The right hand column indicates that 59 per cent of the graduates now living are in some form of business or industrial work and that eight per cent are in miscellaneous fields. Perhaps this merely shows acceptance of the present order, but it does indicate that present day curricula are not entirely out of line with past fields of opportunity.

It is interesting to note that about 60 per cent of the country's graduates

are in business of some sort or other. Going back to our study of the occupations statistics of the Census, 57 per cent of all the supervisory and staff positions selected, including engineering positions, were definitely in mining, manufacturing, transportation, communications and similar fields.

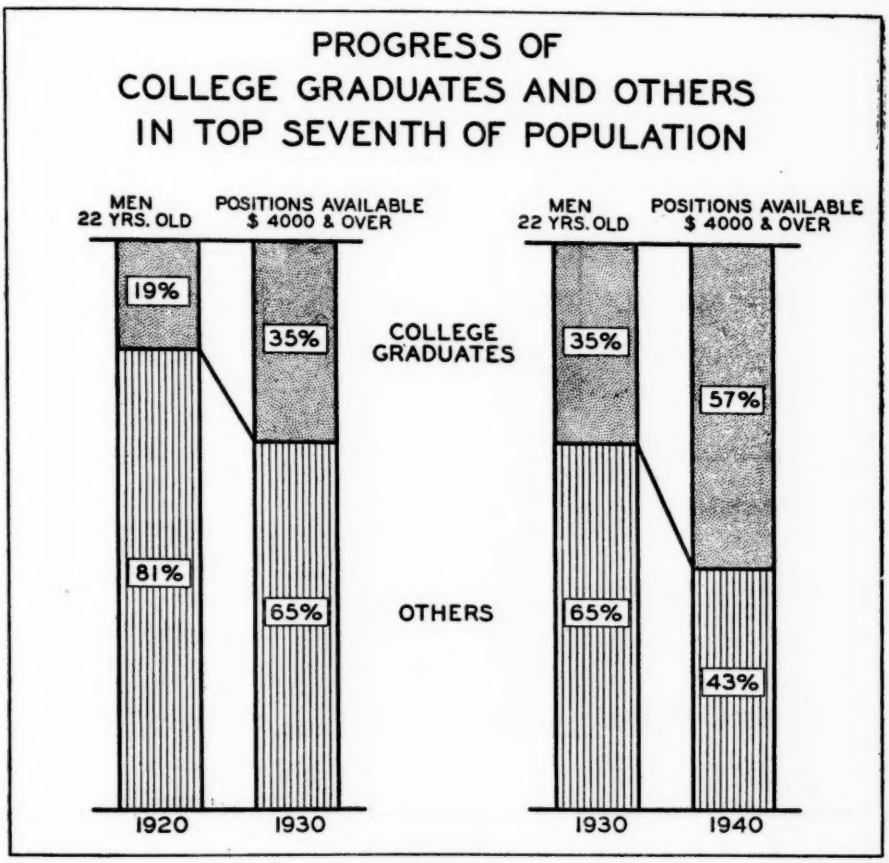

FIGURE 4

Forty-three per cent of these positions were in commercial occupations. The percentage of positions in industry had declined somewhat since 1920 but it is impossible to say that this will continue. Certainly no one would claim that because of this distribution 57 per cent of the men who plan to enter business should receive an engineering training. There are many positions in the industrial field which do not require it. Yet today less than a quarter of those graduates who do not aim for teaching or the professions are taking engineering courses. It does seem that this percentage might be increased to advantage.

Thus far we have not mentioned the questionnaires sent to the membership of the American Management Association, over a year ago. Unfortunately they throw little light on the general question of the demand for

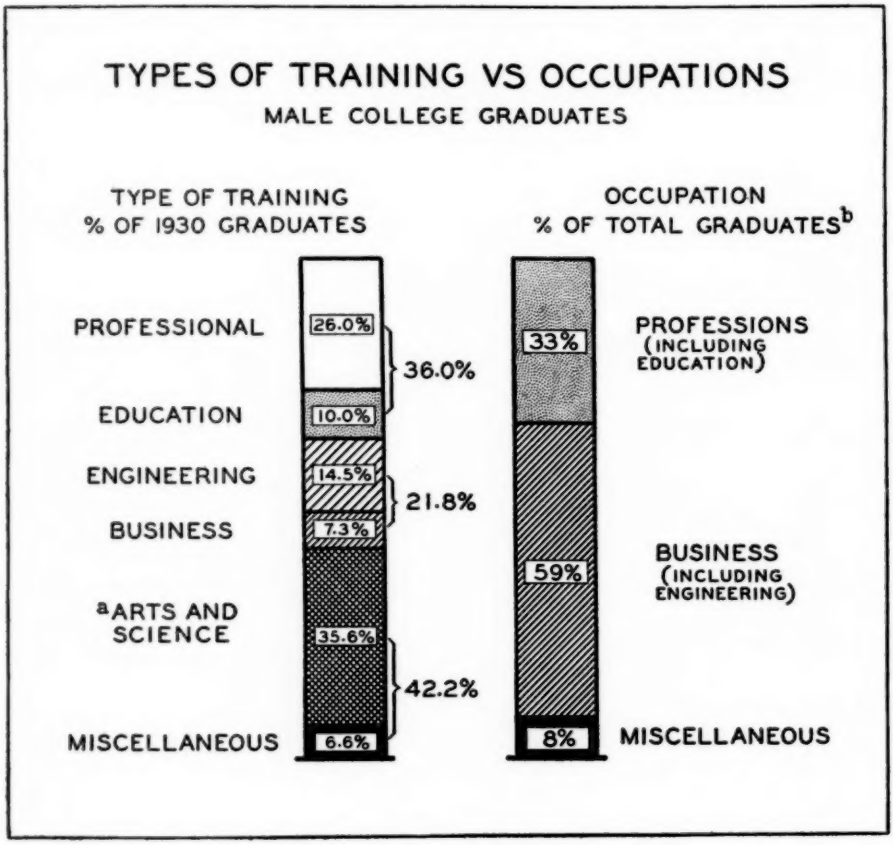

FIGURE 5

a. Excluding those later receiving professional degrees.
b. Estimated from alumni statistics.

college graduates. The total number of men sought by all the organizations replying, was only slightly over 5000, or about a tenth of the country's graduates in 1930. Over 60 per cent of the men these companies employed, however, were engineering graduates. Furthermore, it was possible to estimate the total number of graduates which might be demanded by a few selected industries, if other companies in those fields sought them to the same extent as those replying. In this way we can estimate a total potential

demand for engineering graduates in these industries of about 7000 men a year, or over three-fourths of all the men receiving engineering degrees. When it is considered that this group of industries employs only 20 per cent of all workers in the purely industrial fields, the significance of this figure becomes apparent. We have, then, another bit of information indicating that a real outlet normally exists for a larger number of high grade engineers than is now graduated.

Effect of the Business Cycle and the Present Situation

In view of the situation today, such a statement may seem to be due only to wilful blindness, yet there is some evidence that unemployment among many groups of engineers, severe as it is, is less widespread than that among graduates of other courses. Certainly, throughout 1930, some demand for able engineers continued; for the past year, however, there has been little for any group of men. In June 1931 a report was presented at the annual meeting of the Society for the Promotion of Engineering Education, which indicated that only 38 per cent of the graduating engineering seniors then had definite plans.[1] This percentage included those men who were undertaking graduate work to meet the emergency, although they had not previously planned it. What proportion of all men graduating in 1931 is at work today, no one knows, but we can be sure that it is distinctly small. Many men, of course, are carrying on graduate work this year, and unless there is more change in the business situation than anyone expects between now and June, 1932, the plight of recent college graduates will be even more desperate after that time.

No one will minimize the seriousness of this situation, but it can only be regarded as part of the general emergency we are all facing. No business operating on a part-time schedule which makes it difficult for its employees to maintain their standards of living, certainly no business which has been forced to lay off employees who are still without work, can consider the employment of new men. In general, the economic resources of the college group are greater than those of the average man. To this extent his hardships are less than those of most of the six or eight million unemployed.

In this field, as in many others, today's situation can teach us much for the future. There is no doubt that many organizations during 1928 and 1929, not only built more plant than was justified, but overstocked with college men. This has made it doubly difficult for them to employ even a minimum number during the last year or two. Long term planning should help to prevent that again. Unfortunately too, there is no correlation

[1] See "The Placement of June 1931 Engineering Graduates," *The Journal of Engineering Education*, Sept., 1931.

between the number of men being graduated from college and the business cycle. Figure 6, which applies to engineering schools only, brings this out clearly. It shows that the depression of 1921 was succeeded a year or two

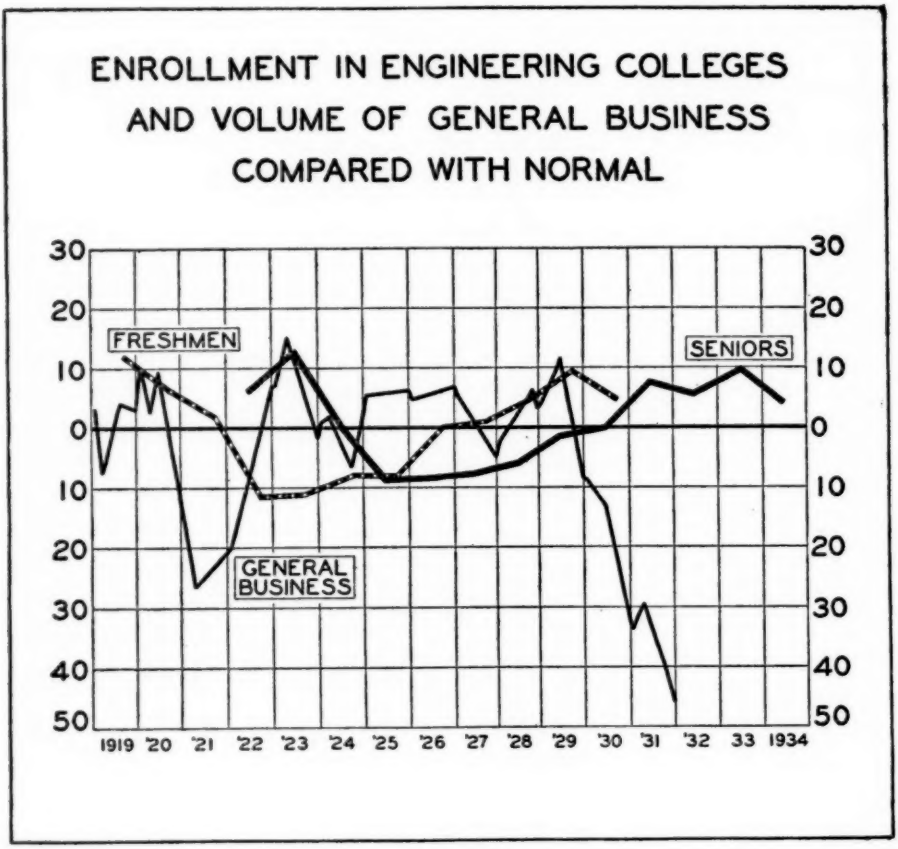

FIGURE 6

later by a sharp drop in the number of freshmen entering those schools. This caused, several years after that, a drop in the number of seniors. Freshman enrollments did not again go above normal until 1927, long after business had recovered. Senior enrollments did not reach normal until 1930 and if our estimates for the future are correct, will continue above normal during this depression. Insofar, then, as the 1928 and 1929 competition for engineering seniors was due to unusual business activity, it represented a merely temporary situation. As these men are being employed, not for present, but for future jobs, it would seem the part of wisdom for a business organization to hold down requirements during such a period to a normal level.

Conclusion

It is difficult to see whether there is any moral to be drawn from these observations. Perhaps three points stand out:

1. From a long-time point of view, it seems inevitable that the relative economic standing of college graduates will suffer, if the number of graduates continues to increase, unless this increased number is obtained almost wholly from the outstanding able young men available. Increases gained through dilution of the college group can only mean that many college graduates will not realize on their training to the extent that they expect.

2. The inconclusive evidence available does indicate that a somewhat larger portion of the men being graduated today might have pursued engineering courses and would, thereby, if fitted for that sort of training, have increased the demand for their services.

3. The immediate employment outlook for men finishing their college work in 1932 is dark enough. It must, however, be considered in perspective with the whole unemployment situation. In the future, better planning of college employment programs by business should help to mitigate the severity of similar situations.

CHAIRMAN JOHN D. BEATTY (Carnegie Institute of Technology): There are three reasons for obtaining an education. The first, and the one which is most often considered, is the economic reason. The second, one might term "enjoyment of life." In other words, a man who has had a college training, making $3,000 a year, can enjoy life more than the man without college training. The third reason, and the one which puts our United States of America in the forefront in the educational movement, is the fact that it trains people to become good citizens.

We are all prone to take the economic motive for securing an education too seriously and neglect the other two motives.

MR. H. N. DAVIS (Stevens Institute): I wonder if versatility in industry is not the answer to the problem of the relation of the output of college graduates to the jobs specifically designed for college graduates. Colleges should do less specialized training for specific kinds of jobs, and more general training that will develop versatility and adaptability in their graduates.

In the last 30 or 40 years the engineering schools of the country have gone through a period of increasing specialization, of increasing numbers of curricula in schools until we have courses in a long and diversified list of subjects. A trend in the opposite direction is apparent now—a trend towards unspecialized undergraduate courses, a trend built on the belief that in the twentieth century the other than economic advantages of college training may perhaps be well realized in a general engineering training, even for men who have no interest in going into technical engineering as a profession. In other

words, in engineering schools we have more and more the feeling that it is our job to train men for business in general, and to train men for life in the twentieth century—for enjoyment and appreciation of what is going on all around them.

Another way out of this difficulty is undoubtedly going to come through an increase in the number of strictly technical trade schools which pick up high school graduates and parallel in one or two years what would normaly be one or two years of a college course. We have not sufficiently developed that side of our training which takes a high school graduate and trains him in skills. If we can intensify and develop wise methods of steering the right boys into these schools, then we shall have clarified the problem in a way that will mark a great advance for all considered.

The charts illustrated in this paper prove that our college and engineering schools, properly speaking, ought right now to be about two and one-half times as large as they are, because every boy in the top seventh of the population in regard to mental energy has a right to a college education for the sake of its influence on the enjoyment of life, and its influence on his playing his part as a citizen.

I know a college graduate, a direct descendant of a world-famous playwright, who at the present moment is running a taxi service in a New England city. He is having one of the most satisfactory lives I know. He is not an ordinary taxi driver—he specializes in supplying what amounts to their private automobile for old ladies for a shopping tour, a round of social calls, or a drive through the park. He is getting a subsistence out of it, he is having a satisfactory life, and he is one of the most literary people I know. Can we not get more young men to say, "I have gotten my college education for the fun of it; now I am going to earn my living as a high school graduate"? If a considerable number of men can be induced to take that attitude, it will pay them to have a college education.

Mr. Samuel S. Board (Yale Graduate Placement Bureau): In the six months from March until October, 1929, there was a very great discrepancy between the demand and supply for mechanical and electrical engineers. We had five times the number of jobs open for engineers as we had engineers to place in those two groups. The number of men going into what might be called more purely engineering courses, such as mechanical and electrical engineering, decreased steadily for several years up to 1929. If industry, excluding the present four or five years, is going to continue with the demand for these technically trained men—I am not speaking of men trained in specialties, such as combustion engineering, but men trained either as mechanical or electrical engineers—is there anything that can be done, or should educational authorities do anything to try to change that trend? Or is it perhaps simply a case of our educating industry to want something different?

MR. REES: Evidence seems to indicate that in normal times institutions could well encourage students to go into the field of engineering. But it is very difficult to project this need even four years in advance, and feel safe in advising a young man to take up engineering because that is the best economic field at the time he enters college.

We must recognize, and the people of this country must recognize, the fundamental of individual differences and that the determination of aptitudes, abilities and capacities should be begun, in justice to our children, as early in life as possible. We in industry must give all the assistance we can in our contact with the youth of the country, as must the faculties of the colleges and the psychologists, in helping to give them a guide toward appropriate life careers.

We in industry should not attempt, therefore, to dictate to the colleges and tell them we want so many engineers trained, or so many in the collegiate schools of business. After all, the individual must exercise his God-given right to choose his occupation in life.

MR. BOARD: I am heartily in accord with your attitude regarding the choice of his occupation by the individual. Would it not be possible, however, to distinguish a little earlier than we do, in the thinking of boys, between the cultural education which undoubtedly all of them will want, or are increasingly wanting, and the technical training which is going to be perhaps a greater means of their economic advancement than some other things would?

Too many boys seem to think college graduates earn a great deal more money than high school graduates. That is partly responsible for the feeling of boys, when they go to college, that they will gain an economic advantage. We need a clarification of the reasons why certain college graduates gain an economic advantage, and what the elements are in college training which aid in attaining that goal. Of course, we are faced with the fact, also, that in the past, when such statistics were gathered, most of the men who did go to college were specially selected and were the intellectually capable persons. In recent years that has not been true. Therefore, there are a great many more young men today with a college education which does not mean much insofar as their industrial training goes, although it may mean a great deal with regard to their cultural development.

The question of whether it is possible for industry to provide the technical courses after boys are graduated rather than expecting them to have that training is important. A great many organizations are doing that.

Many boys cannot go to a technical school, after four years in college, for financial reasons. Yet we shall be faced with this demand for trained men, and something must be done to adjust the difference between supply and demand. I do not mean to say college men could not take up technical work in undergraduate courses if their mathematical training fits them for it. Yet because they are interested in the cultural type, they often deliber-

ately take the other type of training, and come out expecting that to be sufficient.

CHAIRMAN BEATTY: It is true that many college men in mediocre jobs are not enjoying life because they have not had the economic success which they expected. But, perhaps the other reasons for obtaining an education should be emphasized to the undergraduate. We have found, for instance, from our studies of graduates that the highest wages are paid to metallurgical engineers. It has been impossible, however, to get freshmen to enroll in an engineering course in metallurgy.

We have also known for years that the greatest number of requests that come into the employment office are for mechanical engineers. It was impossible for us to interest boys in mechanical engineering—until it was decided to put aeronautics as an option in the mechanical engineering course; now the enrollment has gone up.

MR. A. M. DUDLEY (Westinghouse Electric & Manufacturing Company): The Westinghouse Electric & Manufacturing Company places a high financial value on scholarships. We have used a great many engineering graduates, and while training them we have tried to learn something about their scholastic course and how it might be modified to fit into our work. The engineer of the future must be both broader and deeper. This does not mean a race of supermen, but does mean that a broad foundation of technical fundamentals and as much cultural work as possible must be laid, in order to make possible a later experience development of keener analytical powers in closer sympathy with social needs.

Swarthmore College was the first school, so far as I know, to attempt to extend the Oxford tutorial system to the study of engineering. By demanding a high standard of scholarship and by surrounding the student with the humanizing environment of a small college, they are successful in impressing the boys with the fact that there is much to engineering in addition to purely technical courses.

We feel that if men come to us well grounded in the fundamentals of mathematics and physics and have an idea about how to think and to work, we can quickly and readily give them current industrial practice in engineering. For this reason the time in college devoted to "commercial practice" or "application" can be reduced to a minimum and devoted instead to economics or history. We encourage our graduate students to take extension courses and qualify for higher degrees. There have been as high as 200 men doing this work at a time and eight or ten are graduated each year.

Industry, so far as we represent it at Westinghouse, wants the man to be well grounded in fundamentals at school. Then we try to help him build specialized skills on that foundation so that he will become happy not alone by virtue of philosophy, but also because he is having a reasonable amount of economic success.

What Does Industry Seek in the College Graduate?

By

C. R. Dooley, *Personnel Manager,*
Standard Oil Company of New York
A. M. Jones, *Assistant Cashier, Personnel Department,*
The Chase National Bank
J. F. Dwinell, *Director, Harvard Alumni Placement Service*

Industry's Need for College Graduates

PROBABLY about 200 individual firms canvass the various colleges yearly, seeking from one or two to 600 or 700 men. While these would represent only a small percentage of the nation's industries in number, they represent a very large volume of the business done in this country. There is, moreover, a growing tendency for more firms to turn to the colleges as a source of new employees, and the indications are that this trend will increase in the future.

Some Qualities Sought

It is, of course, difficult to lay down hard and fast rules which will define just what industry is seeking in the college graduate. This varies with each organization—especially as to specialization or general adaptability. However, the following general statements are true, although exceptions to them are expected in some cases provided there are counterbalancing factors.

In a discussion of this question some years ago, Professor Breckenridge of Yale put it this way: You know, a good chair ought to have four legs. If it has only three, you can still sit on it; in fact if it has only two, if it is well made and you are clever, you can use it; and in an extreme case you can use a chair with one leg if that leg is good enough. And so the idea of a balanced set of legs for a man to stand on is very good. Nevertheless there are counter-balancing factors which make some rather lopsided men very satisfactory.

The order in which we shall name a few qualities is not significant. Industry definitely looks for good health in a candidate. He must have a good physique, and an upstanding, vigorous appearance. Students are preferred who have participated in sports and who have had considerable outdoor life; not necessarily to the exclusion of everything else, but it is a good asset to have. They need not have excelled in any of them, but sports undoubtedly contribute to poise, good nerves and endurance, and they help to make a man sportsmanlike, a quality needed frequently in the stress and competition of modern business.

Then as part of his physical equipment a man should have a good voice—full, rounded and clear, not thin and high-pitched. And this can and should be developed as part of his college training. Every student should have some voice training and instruction in public speaking, for it is of

great importance in business that a man should have the power to express what he knows.

A personality which in some way commands attention either by charm of manner, force of character or general poise and demeanor is desirable. A great deal is heard about personality and the average man feels he either has it or not. If he has not, he is sorry for himself, says the other fellow was born that way, the Gods were good to him, and he gets by. This is not quite true. A good personality can be developed, and emphasis should be placed on it.

A record of accomplishment without something of a convincing personality is unfortunate, although mere personality without stability of purpose and industry is, of course, not wanted. Along with other desirable qualities the man with some color to his personality has the advantage, yet industry is on guard against the man with a striking personality but nothing back of it.

Character is, of course, the most vital quality to be desired. This includes not only academic honesty and faithfulness, but innate loyalty in little things and enthusiastic interest in the job at hand. It also includes purpose behind action; readiness to accept responsibility and carry it through; spontaneous action in matters of cooperation; in a word, thoroughly dependable, with an optimistic, helpful attitude. This sort of person thinks outside himself rather than about himself, although he is genuinely ambitious and is both artist and artisan. He has self-confidence without conceit. He has initiative but also tact. He takes his work seriously without taking himself too seriously.

Students' Earnings

Ordinarily the man who has had to work his way through school, or at least a considerable part of it, is a better risk than one who has had to give no thought to his finances. Occasionally one finds a man with adequate means who chooses to make all or a large part of his own way. This man is perhaps more to be commended than those under the necessity of making their own way, although they will both arrive at the same place concerning habits of thrift, economy, independence and ingenuity. A prospective employer hesitates to take any man who has never had any financial responsibility, for usually the importance of the matter is not brought home to a person except under the stress of necessity.

On the other hand too much poverty often deprives a college student of many opportunities which are a part of his education. Sometimes the physical burden becomes a mental burden. It is good for a man to have enough financial burden to teach him the value of money and test him out, but not enough to depress his spirit or deprive him of a certain amount of

social experience. Of course all this varies with the man—the better stuff he is made of, the more refining he will take under difficulties.

In these days there are literally thousands of students earning their way, and the methods adopted are often interesting and indicative of the character and ability of the man. We made an analysis of students' earnings a couple of years ago, based on visits to about 35 colleges; of about 500 students interviewed,

11 per cent earned 100 per cent of their way through school
50 per cent earned 50 per cent or more
10 per cent earned none

Of 311 of these men, 227 earned $1000 or more during the college years.

The College Course

There are so many factors entering into the qualifications for various industrial positions that in the long run it makes very little difference what course a young man takes in college. His personality, his temperment, his reason for wanting the job, his health, his general experience outside of college, his potential abilities, his ideals, his ability to get along with people, and many other things are more important than the particular subjects he studies in school.

Specific information and skill are the least important qualifications, although they have their place. There are differences between the liberal arts man, the mechanical engineer, the electrical engineer and the chemical engineer from the standpoint of information and skill acquired, but there are greater differences between these men from the standpoint of why they decided to take these courses and from the standpoint of their ability to use the information in original ways to meet new situations. The word "versatility" is perhaps the most descriptive—the ability to use information in new ways to meet situations that are new. A broad understanding of whatever has been studied is more important than the special knowledge acquired.

Engineering training has some advantages because an engineering course requires a great deal of concentration, analytical thinking, accuracy in detail, and a sense of responsibility toward practical accomplishment. Academic courses have a maximum of memory work and are generally considered not so difficult. Of late there have sprung up courses in business administration which, while they contain some valuable subjects along the lines of economics, money and banking, foreign exchange, etc., still do not require the vigorous mental attention that engineering does. There is a feeling that such courses appeal to young men who are in a hurry and who think of them as a short-cut to administrative positions.

It seems best for a student to select his course according to his own interests rather than according to someone's advice, and he is especially

fortunate if throughout his entire college course he has a definite, well-thought-out end in view. With a well-balanced career as a student, balanced between studies, social life, including athletics, and economic independence (earning some of his way) a man should show leadership in some one of these fields of activity.

Every student in some way can show an outstanding quality of leadership, either in class work, campus work or in the management of his own personal affairs. If he does not, then we wonder how he spends his spare time. There are only four ways. He can either engage in extra class work, campus activities, real work to earn money, or just have a good time trailing. If he is only a social lion, he might have something to do with managing the lion's den.

The Type of Student Wanted

There is a difference in men as to native type. Some think in terms of material things. Others think in terms of statistics and ratios. Some think in terms of people and some of money; some in terms of construction, as the building of machines. Others think analytically, as investigators or research men; still others think entirely commercially.

Tell a man that you visited a manufacturing plant. Watch the questions he will immediately ask, either as to its size and equipment, its volume of business, or how many men it employs, and how they are handled, or as to the balance sheet, or its stock quotation. There are a dozen different approaches to such a question which indicate the slant of that fellow's mind and give an inkling as to the things in which he is interested.

However, the personal qualities mentioned previously so far outweigh matters of type and particular training that a man who possesses these personal qualities to a marked degree is generally preferred regardless of the particular kind of education he has had except, of course, in very technical work. A stenographer does have to know what a typewriter looks like, ought to know how to spell, and take notes accurately. How many have had experience with the girl who is thoroughly skilled in taking notes and operating the typewriter, but who has no conception at all of what she is writing, and is just as apt to have it mailed to the wrong man as not, or let it wait over until the next day, not appreciating the urgency of getting it out? Our plea is to start with the young person, man or woman, of broad training and understanding; in time he or she will acquire the required skill.

Students, even those who make excellent grades, are not wanted if they have been nothing but grinds. Therefore, something in a man's college life should develop his personality and ability to get along with people, and his ability to lead in social as well as intellectual matters.

To put it in another way, the whole of an education, even a technical one, is not in the curriculum. There are many other things to be learned from contacts with men through different local organizations, and here qualities of leadership are likely to be discovered. There is a wide difference between a man merely belonging to a fraternity and one helping to run it. A man's membership or non-membership in a fraternity makes little difference, but if he is a member, we want to know to what extent he has carried responsibility.

We have discussed here only some general qualities and characteristics desired. That is because each business and industry has its own specific needs, and it alone can state the specific qualifications it is seeking in a college graduate. We know that when seeking men the more definite information a company gives to the college placement officers concerning its needs, the more assistance the latter can render, but it is impossible to define here exactly the type wanted in a particular industry, since each company emphasizes different qualifications. But the preceding gives the main characteristics wanted generally.

To sum up, it makes very little difference what subjects a young man studies in college, but it makes all the difference in the world how he studies them, what he does with his opportunities, how he stands in his classes, with what seriousness he takes his whole college life as an opportunity to get an education, and how all round his development has been, and what his driving purposes are.

In an address given at the St. Lawrence University commencement last spring, Owen D. Young mentioned five qualities that are wanted that are worth quoting. He has put them, of course, in his own words. They were tremendously impressive;

1. Have you enlarged your knowledge of obligations and increased your capacity to perform them?

That might be called character.

2. Have you developed your intuitions and made more extensive your emotions?

Altogether too little has been said about emotions. That is one trouble with the world today. It has enough sense and knowledge, but its emotions are all out of joint.

3. Have you discovered your mental aptitude or purpose?

4. Have you learned enough about the machinery of society and its history to enable you to apply your gifts effectively?

That is, do you know your way about among men.

5. Have you acquired adequate skill in communication with others?

This takes us back to one of the first qualities mentioned in this paper.

Mr. Dwinell: We cannot do much to change men after they come to college. Certainly we cannot change their physical qualities. Their behavior, perhaps, is also pretty well fixed by that time. They are either emotionally stable or not. It comes down to a question of what men are going to be admitted to college.

Industry coming to the colleges has no overall purpose with respect to the type of person desired. Different men fit those different purposes. Those who have come to us seeking men who would not fit the description given in this paper may not be taking the right kind of men. In many cases, however, these men have made good. If there is room in industry for men who have not all the qualifications, or even the majority of qualifications that have been outlined, certainly before telling colleges what men they should admit, considerably more thought must be put on the question by industry.

Mr. C. S. Coler (Westinghouse Electric and Manufacturing Company): Attitude is a most important factor. When we have found a young man whom we can interest in something, we have made a good start. A young man deeply interested in what he is doing and possessing a wholesome attitude toward himself and his environment, will go a long way even without an elaborate formal education or without some of the otherwise very important characteristics pointed out in this paper.

Most human beings have a very great capacity to adjust themselves to conditions. On the other hand, conditions have a great capacity for requiring adjustment on the part of human beings. Why not put together all of the qualities mentioned and say that what we are looking for is good men. Let us keep these qualities which we seek in men before us as ideals. Let us meet the practical situation which confronts us each day in a human way. Let us expect each man to stamp his own value upon himself and make his own success in the world against whatever obstacles may come and with whatever assistance he may be provided by a kind environment. Let us, insofar as possible, maintain a freedom of choice and a freedom of opportunity.

Mr. McKnight: The sort of man described as being desired by industry is the sort we should like to see predominant in the freshman classes. The requirements differ in different institutions. Our freshman classes cannot be limited to men who possess these characteristics however. Of the numerous deficiencies that a freshman might have on entering college, is it within the power of the administration and faculty to remedy some of them during the four years of his college course? Further, which deficiencies should have been remedied before he comes to college, either by high school administration or by his family? Which would it be reasonable to expect industry to undertake after employing him?

Mr. Dooley: The whole of life itself is a school. I suppose every

step in the road is some change along the line you mention. Just where each change should be made no one knows. But I never lose this faith in the idea that we are never too old to learn and to change our ways.

Perhaps we should take men as we find them, giving them a choice—they are free to go wrong if they want. But I never quite like to let it go at that. I never quite give up the thought every time I see a man making some mistake that he could be set right. Most men want to do right; their mistakes are born of ignorance of the right way. Education should show the way even in personal qualification. Of course we are not going through life as fixers, and yet I do think it is up to the schools, up to the homes, up to the high schools, every one, to place proper influences before young people, at the same time giving them the freedom to do as they please.

I do not think we should stand coldly by and act as a sieve. Tremendous changes take place in almost every student during his four years in college. Whether in home, school or industry it is part of our job to hold up the mirror and let people see themselves. We do not tell them what to do but give them a good reflection.

About fifteen years ago I was sitting at my desk in the Westinghouse Company. A student came up from the shop all out of breath. He plunged himself down into a chair, hit the desk with his fist, and said: "Mr. Dooley, I have just made a great discovery. I have discovered everybody here, foremen, superintendents, everybody, wants 100 per cent, whereas at college 75 per cent was good enough." He was visibly moved, his eyes were wide open. He saw the light. That 100 per cent will differ with the individual, of course. No one standard will fit all men but at least we can expect each man to do the best he can. That must be accomplished in various ways, depending on the character and personality of the person concerned. I think if we expect more from these young men they will respond.

We can do a lot in personality development—voice development, expression development, character development, so that each man will excel in something, or at least be a real personality. The depressing thought is that so many are just getting by with no thought of excellence in two ways—excellence of performance and excellence of attitude.

The cultural value of a college curriculum is very significant. We must stem this current of education for its economic value. We are trying to make men and not machines. I should not even except the trade school.

Of course it ought to go back to the high schools, it ought to go back all along the line. College professors cannot help very much. They take the raw material they have and set up standards of excellence in the college curriculum. Every man ought to hit close to 100 per cent in some line he can be proud of. Once he becomes interested in something he begins to grow; if he doesn't develop an interest he never does grow.

MR. H. N. DAVIS (Stevens Institute): A trade school is different from

a college in not attempting to build versatility into men. I think there are some men who ought not to have versatility built into them.

The most vivid impression I brought back from a year in industry was the firm belief that the attitude, the spirit, the quality of the man at the top of the department completely dominated the attitude and spirit of all the men throughout that department. We can carry that same thing over to colleges. The only sure way of building character in undergraduates is to have character in the faculty so that it shines out and the students get it by imitation and contact.

In other words, my suggestion is we ought to carry over into college work the advice from the business world, and say perfectly frankly when we are hiring a new instructor, or a new professor, that it matters a lot what kind of man he is. In other words, let us not look for degrees; let us look for personality and character, with a sufficient amount of technical ability to get by.

A second means of building character in youngsters is the placing of responsibility on them in every possible way. It is for that reason that the honor system, so-called, the self-discipline in enforcing honesty in written work, thoroughly justifies itself, even if, as often happens, the honesty wobbles a little. All the other activities the young men can be made responsible for justify themselves for the same reason.

I have been much impressed by the way in which the undergraduate group of a technical school which has the honor system compares with other undergraduate groups in their ability to take hold of a situation and put it through when they want to, when they feel it is their job.

Mr. D. H. Morris (Ohio Bell Telephone Co.): The thing we are looking for in a college man does not differ from what we look for in a high school graduate. We have a right to expect those qualities to have been developed and more firmly fixed through that further period of education. After four years of intensive guiding and training, college men should have those qualifications industry wants developed and fixed.

A man has only three things to offer, physical strength and health, ability to think constructively and analytically, and character. Character has been defined as that which makes it easy to live with a man. It is that which makes a man fit into the organization of the company for which he works.

It is the men and the influence they have as well as their ability to teach their subjects that make the graduates from colleges. Some colleges have failed to maintain the degree of some of these wanted characteristics that the freshman brought with him from high school. They have improved on some and lost on others. Particularly is this true of the ability to communicate and talk or write good English. Some teachers do not impart the grasp of theory that enables the student to apply the theory under unfamiliar

conditions. Employers do not wish to have to outline to the college trained employee how he shall approach the solution of each new problem. They merely wish to be able to point to the problem and say "Go to it."

Most of our colleges are doing a wonderful job in that direction—if they were not, we should not be able to employ the thousands of good men we do. The colleges also have a problem, therefore, in getting the right kind of men on their faculties.

MR. DOOLEY: The quality of instruction, the method of instruction, the method of study, the attitude of the student, the relationship of professor, the whole thing comes pretty much to this—that you are teaching men, not mathematics, nor science, nor history, nor any other subject. That attitude will set the boy's imagination on fire and he will be energized rather than enervated.

MR. BOARD: There are boys who come to college handicapped in various ways by education. They have to spend an undue amount of time in study. There are other boys who come from social atmospheres which do not prepare them to take part in the social affairs in college, and yet who have considerable potential ability along those lines.

If we depend entirely on a man's record in college for consideration as to whether he is good material or not, we shall eliminate a good many leaders; and there are men who will be useful in big industries but who need a certain period of time, three or four years, in which to grow and find themselves.

There should not be much worry about leaders in colleges—they will go into small companies or start their own businesses, and take care of themselves. If the big companies could use some of the potentially capable instead of those who have already achieved and give them a chance to grow, as they I think could, until they have a chance to develop leadership, it seems to me the companies would be benefiting themselves as well as the men.

The first question is how those men are going to be determined, are going to be found. A man's college record should be considered; the companies should also consider his high school record and background from which he came to college. The two in relation will give some indication of how a man has used his college course, what difficulties he has had to encounter and how much relative progress he has made.

A boy going to college from prep school has met a good many boys of a certain social grade, and has a background and understanding which gives him an immense advantage over the boy going to high school, where there are no other boys going to the same institution. The prep school boy probably will show leadership in college socially where the other boy cannot. Similarly a boy with excellent preparation for college will take hold of the college work a good deal more rapidly and do more proportionately. Yet his actual accomplishment may not be as much as the boy who comes poorly prepared.

MR. E. B. ROBERTS (Westinghouse Electric & Manufacturing Co.): The thing that industry seeks in college graduates is capacity for growth. I have seen many men come into Westinghouse. As the years went by, some of those who had looked the best when they came seemed to fail to grow. In some cases they actually appeared to shrink. Other men who did not look so good at the moment, showed the capacity for growth in one way or another, or for symmetrical growth in all directions, and at the end of a few years flowered into leading men of their group in the industry.

It would seem that the college is the point at which some means of measuring growth could be developed, what rate of progress is made by the individual. If the faculty and personnel department can see and measure a certain growth accomplished by an individual physically, mentally and spiritually, they are getting somewhere with that man. Even if he does not come out at the head of his class as an outstanding leader, but has shown consistent growth from whatever beginnings were his, he is the sort that industry seeks.

The thing I should like to see reflected in college personnel and other records is something that shows that the man has a purpose, is going somewhere, and is on his way.

MR. DOOLEY: There are boys who go into shops so enthusiastic over becoming leaders that they cannot get down and shovel coal for a while. I think there is a lack of definition of what leadership is. The kind of leadership we are after is not political, not the clever way of getting people always to do what you want them to do. That may come later. It is a clear understanding of what the job at hand is, and being so enthusiastic over it that it is put through in spite of difficulties and with a minimum of friction, no matter what the size of the job.

MR. A. B. GATES (Eastman Kodak Company): Knowing why a man has done certain things instead of simply taking what he has done as an indication of what the man is, is important. I know men who have earned their entire way through college and prep school; and other men who did not earn a cent, but are better men. Let us, after we find what the man has done, find out why he has done it, get the motive back of what he has done, and let that indicate what the man is. Let us be sure to get and keep the fundamentals in our college programs. Attitude or character cannot be forced on the student but some of the other qualifications emphasized as important can be developed by suggestion and example.

MR. A. B. CRAWFORD (Yale University): While the qualifications outlined are obviously essential for leadership and industry, they by no means meet the requirements of the college personnel office when it comes to the question of selection of men for specific positions—and particularly for such positions as may not necessarily lead eventually to the presidency of the firm, the United States Senate, or other such eminent forms of leadership as these

qualifications might suggest. That industry wants "good men," it seems to me, can be taken for granted. We want a little more definite and factual selective information than that, regarding the different types of activity and different levels of opportunity within various vocations. People may have excellent qualifications in general and yet not seem destined for the top notch in industry. Some men may not be good enough for certain jobs, some too good. For the guidance of both types we need more specific information than now exists, about what occupations really consist of. A more definite selection of men, in specific relation to the real overall needs and probable opportunities in a particular business, is, from the point of view of the college personnel office, what we want from industry.

Some Fundamentals in Industrial College Employment Programs

By

F. S. JOHNSON, *Personnel Manager, E. I. du Pont de Nemours & Company*
R. E. DOHERTY, *Professor of Electrical Engineering, Yale University*
J. R. BANGS, *Professor of Administrative Engineering and Personnel Director, College of Engineering, Cornell University*

THE COLLEGE employment program as we have it today is due largely to the influence that science and scientific men have had on industry during the past twenty years. It is needless to recall the days when college men were considered the frills of industry and were merely tolerated rather than sought after. As research and the application of its results have developed, there has arisen a demand for technical supervision, technical salesmanship and other types of college training which has made the selection and the employment of college men one of the major problems of industrial organization, and has necessitated the formulation of a definite program to handle it.

The authors make no attempt to be final but simply to express the facts as they appear today. In trying to coordinate these ideas little or no difference of opinion developed. This would seem to indicate that the colleges and industry are facing the fundamentals of the problem with a common point of view which augurs well for future efforts.

The purpose of the college employment program is to secure from the colleges a suitable part of the supervisory and technical material needed by the organization. It aims to provide some of the organization's future

leadership and should contribute substantially to the strength and success of the enterprise. From the broadest point of view, it should result not only in the selection of the best men for different types of work, but in balancing their weak and strong points and attempting to fit the individual into the niche where his outstanding abilities and characteristics will be of the greatest mutual benefit, thus maintaining a well-balanced organization. Naturally, if this purpose is to be accomplished, a personal contact with the men under consideration is necessary.

It would be possible to carry on a college employment program without recruiting at the colleges. To establish the needed personal contacts, however, and to meet competition, such recruiting has usually become an established part of the program.

If the purpose just outlined is fulfilled, it is clear that substantial values to the organization will result. Few organizations which are growing steadily can provide from within all the leadership talent required. A very substantial proportion of those young men who have outstanding intellectual and social abilities are now going to college. In order to obtain their fair share of that ability, organizations must draw on this source for it. In addition it is the only source for those men with special scientific and technical training who are essential to many industries.

Where college recruiting is the major part of the college employment program, certain special values are recognized:

1. It furnishes a continuous personal contact with the source of supply of essential raw material.
2. By means of this contact, the college professors eventually learn the type of man desired by various industries.
3. Through the cooperation invariably found at the colleges, there is received the benefit of the frank opinion of men accustomed to dealing with youth, and capable of making an unbiased estimate through observation over an extended period.
4. Considerable time is thus saved by the elimination of useless interviews.

Forecasting Company Requirements

If it can be admitted that college graduates are primarily employed as future leadership material, to set even the current year's quota for college graduate employment requires forecasting the demand for such material some years in the future. Such forecasting, however, should be no more difficult than that for example, of future sales, and consequently, manufacturing capacity.

At present, of course, forecasting in connection with any phase of a business is avoided like the plague. Certainly any estimate today would be

affected greatly by the frame of mind of the individual making it. Nevertheless, if business is to go forward, plans for the future will again become necessary. It should certainly be carried on with the thought that several years of training and experience are essential as preparation for the responsibilities which it is hoped the individual will eventually assume.

In estimating an organization's needs for college men, certain fundamental factors must be considered.

1. For what group of positions are these graduates being primarily employed?

2. On the basis of probable growth and turnover in these positions, how many of them will be available at the time these graduates are ready to assume them?

3. What proportion of the positions becoming available probably should be filled by college graduates?

4. In order to provide the men necessary, how many graduates should now be employed when proper allowance has been made for losses and failure to develop?

Stabilizing Annual Requirements

Keeping in mind that a comparatively small number of men are under consideration, that the sources of supply are producing on a non-profit and non-competitive basis, also that the large consumers of this product are in close cooperation with the producers, it should not be a too difficult task to work out a practical plan of stabilization. Any extended discussion of this question logically leads into the law of supply and demand which is covered by the preceding paper. In order to avoid overlapping, we shall consider the situation as it confronts industry today. For the sake of illustration and discussion let us assume that an organization early in 1929 carefully estimated that it could assimilate annually a total of two hundred and fifty college graduates with various types of training, for the ensuing five years, at a starting salary of $125 per month. Let us assume further that this number was employed from the June, 1929 class, and distributed throughout the organization according to the original plan. By what means can approximately the same number of graduates be taken care of from the classes of 1931 and 1932? Should industry

1. Attempt to maintain the same starting salary as paid in 1929?

2. Create additional work to take care of this select group of men?

3. Place them in productive positions at the sacrifice of experienced men either with or without college training?

4. Disclaim any responsibility in the matter, abandon its plan entirely and allow these young men to solve their own problems?

5. Assist the colleges in such a manner that these men can be kept

employed there either in continuing their studies or carrying on some work of mutual interest to the college, the individual and industry?

Every industry in the country is endeavoring to answer these questions today or at least trying to reconcile them with the general problems of their organization.

Many variables enter into the question of what constitutes suitable progress in salary and position such as business conditions over the period considered, the type of training and work engaged in, and the size of the employing organization. The study made by the American Society of Mechanical Engineers on the economic status of the mechanical engineer developed some very interesting information on this subject[2]. A somewhat similar study on chemical engineers made by Alfred H. White gives similar information on men with this training.[3]

Taking the first five years after graduation as a criterion, it appears from these data that a mechanical engineer engaged in any of the following industries: 1. machinery manufacturing; 2. power machinery manufacturing; 3. chemical manufacturing; 4. non-metal manufacturing; 5. public utilities; 6. construction; 7. consulting, progressed from a starting salary of between eighteen hundred and two thousand dollars per year to a salary of three thousand dollars per year at the end of the period. Those engaged in academic and railroad work progressed less rapidly, the academic worker not reaching the three thousand figure until the sixth or seventh year and the railroad worker until the eleventh or twelfth year after graduation. These figures are based on 1930 median earnings. The median of salaries of three hundred and eighty-two chemical engineers engaged in various types of work pertaining to their profession, including teaching, was twenty-seven hundred dollars per year, five years after obtaining their first degree (this was for graduates of 1920-30 period.)

Generally speaking, suitable progress should not be measured entirely by salary. This is especially true at present when many college graduates are taking jobs at most any figure in order to be employed. A very accurate gauge of progress for the college graduate over the next five years will be the increasing interest that his work offers him which will depend upon rotation of duties to broaden his experience, increasingly bright prospects for the future, together with a sufficient income to live normally.

The question of transplanting college graduates from the restricted and sheltered campus to the broad and frequently storm-swept field of industry has been the subject of much study and experimentation by both colleges and industry. The importance of this transition period has been so thoroughly recognized by the colleges that practical experience in one form or another has been made a requisite for a degree at many institutions. Practi-

[2] "1930 Earnings of Engineers," *Mechanical Engineering*, Sept., Nov. and Dec., 1931.
[3] "Occupations and Earnings of Engineering Graduates," *Industrial and Engineering Chemistry*, February, 1932.

cally every industry with a college employment program has a so-called training course of some type designed to assist the young college graduate in finding his place. These courses may vary from a vaguely conceived plan which consists of little more than a sight-seeing tour to an accurately scheduled apprenticeship through the various processes and stages of manufacture with opportunity for additional study courses. Outstanding in work along this line are such organizations as the Bell Telephone System, The Westinghouse Electric & Manufacturing Company and the General Electric Company. Whatever the details of the plans may be, all of them are motivated by a desire to be of assistance to the college graduate in orienting himself, and at the same time to enable industry to benefit as quickly as possible by the up-to-date training, youthful energy and unbiased viewpoint of the college graduate which is his stock in trade. With this purpose in mind it is mutually desirable that the college graduate be familiarized with the various phases of the industry concerned and his reaction to each of them carefully noted. He should be given sufficient responsibility to test his judgment and ample opportunity to demonstrate his industry and his qualities of leadership and cooperation. After these fundamentals have been accurately determined, his place in the organization and his potentiality to progress can be judged with a fair degree of accuracy, and he should be placed accordingly. An essential of any training course is that it be comprehensive enough to develop the above points definitely, regardless of the time involved. The more quickly it can be accomplished, the more satisfactory the results are apt to be from the standpoint of both the individual and the organization. Dissatisfaction with the functioning of training courses is frequently due to the lack of close supervision and constructive criticism during the training period and, consequently, failure to do the correct thing on the part of the individual upon completion of his work.

Industry has a tremendous responsibility to itself and to its personnel in properly carrying on the development necessary for an efficient organization. After a college graduate has completed his initial training and has been placed in a definite position in the organization, it should be the responsibility of his immediate superior to see that he is given every opportunity not only to learn the details of that specific job but to familiarize himself with everything even remotely connected with it. After this has been accomplished he should be given duties to perform in connection with the position next in line and made to feel that he can depend upon a full measure of cooperation in his efforts. Such development frequently calls for specialized study, and some organizations furnish facilities for this purpose. Nothing, however, contributes so much to the development of men and organizations as mutual confidence. This can be created only by a broadminded policy on the part of industry in all of its dealings with its men.

In addition to the educational courses designed for the purpose of

group development in a strictly business sense, other plans are frequently designed for social contact and development such as athletic organizations, seminars, card groups, etc., all of which serve a useful purpose. Many organizations also have plans to encourage individual effort, such as suggestion and profit sharing plans. Under these schemes the individual is given an incentive to think beyond the confines of his every-day work with its standardized practices, and encouraged to inject into it original ideas which will be practical and profitable.

Mutuality of Interest Essential

If industry is to depend upon the colleges to do the preliminary training of its executives and the colleges are to depend upon industry to complete the task, each must have an active interest in what the other is doing. The only way an intelligent program can be planned and executed is by a joint undertaking by the industries and the colleges. And it is industry's first move. If it provides the essential information, the colleges will then be in position, so far as information is concerned, to follow up with an adequate and appropriate program. It is possible and proper for industry after careful consideration of the problem (estimating requirements) to state the general background of training which, from its point of view, would be desirable for these graduates to have. For example, a future executive should have training in dealing with human and other problems which he will later encounter. Should he have some of this training at college? Or, is industry going to take the responsibility for providing all of it in a systematic way? Where would industry suggest that the college leave off and industry begin? Industry should make an earnest attempt to specify what it needs and wants, and to do this would require a joint well-coordinated, searching analysis. If it is reluctant to specify background of training, then it should at least specify as completely as possible the different types of graduates it wants, and what it wants them to be able to do when they leave college. Even with only this the colleges could at least have a basis for drawing an appropriate background. These questions require investigation and a searching study.

There is another point which is deserving of cooperative consideration by both education and industry. There can be no question that both are interested in the intellectual development of the graduate and should take an interest in stimulating the individual toward a continuing educational program. Initiative in the furtherance of this proposal might come either from the colleges or from management. By way of illustration, after the graduate has permanently located himself with an industry, let us say six months after graduation, his college might communicate with him, offering further educational assistance through extension courses or the like, and suggesting to him that he confer with his supervisor on subjects or courses which might

be of the most immediate value to him. After decision has been made, a request, on his part, to his Alma Mater for assistance could be met with an offer of extension service or a recommendation to pursue the courses desired at some institution in the community in which the graduate resides. On the other hand, the man's superior in business might talk this subject over with the graduate and advise him to appeal to his Alma Mater or recommend local facilities for pursuing courses in his further intellectual development. Some such action would impress upon the young man that training and education are life-long processes.

It should also be said that this attitude toward training, both practical and educational, should apply to the non-college as well as to the college man.

MR. J. R. BANGS (Cornell University): The whole question of the college employment program centers around the problem of selection. It is a complicated thing. It embraces the social, economical, physical, physiological, psychological, and also, if you please, moral aspects of the individual.

During the years 1928, 1929 and 1930, the larger companies were particularly fortunate in getting the better type of men. They made it their business to be well informed and to go after these men. In 1931 they were not quite so anxious to get men. Yet at Cornell we placed 92 per cent of the mechanical engineers. The reason for this was that we found smaller companies, who had not gotten their full share of technical men in past years, taking an active interest in recruiting.

Certain industries which have not made a point of seeking college men have suffered by the lack of talent. Industry can benefit, it can educate the faculty so eventually the faculty will know what types of men are needed. The faculties should be offered summer jobs. If enough college professors are brought into industry, eventually the college professor will know what type of man is needed, and it will not be necessary to do any recruiting.

Industry's responsibility for further training and development after employment is very great. The industry should make the facilities available but should not force them upon the student. If they are available and he cares to develop himself further it should be entirely up to him. Under no circumstances should industry say a man cannot go beyond a certain point unless he comes to its night school or takes its courses.

In the mechanical engineering school at Cornell every prospective graduate is interviewed with the idea of fitting him into the line of work for which he may be best suited. "The Young Man in Business," by H. L. Davis, has helped us to get this message across.[4] Those interested in industrial education should read this book. We laid out a coordinated course, gave definite reading assignments, asked questions, etc., and when the lecturer came, he not only took

[4] John Wiley & Sons, Inc., N. Y. 1931.

up this subject but answered questions. Some of the questions asked indicated that many of us had taken too much for granted. The graduate's knowledge of industry is usually rather limited. We need something to bridge this gap between the college campus and the storm-swept field of industry.

We make a practice of following every class once a year for five years, sending out follow-up blanks asking for various information on work, salary, if they care to give it, how well they are making out, and also suggestions as to how we can be of help. We get repeated inquiries about books to study, courses to take, other universities to attend, etc. The school's responsibility does not end with graduation. We should help graduates as much as we can, and play hand in hand with industry. It is a mutual problem requiring considerable thought and cooperation.

CHAIRMAN A. M. DUDLEY (Westinghouse Electric & Manufacturing Company): Only 38 per cent of the engineering students who were graduated in June, 1931, were taken care of, and that included the men going back for graduate study.

MR. W. HENRY SMITH (Retail Credit Company): The colleges in Georgia at one time cooperated with certain industries in maintaining a college placement office. Its objective was to get good men for industry, and at the same time to draw business and college closer together. It was financed by the colleges, by friends of the movement, and by contributions from industry.

We found that the supply of graduates quite exceeded the needs of industry, and for that matter, that college men had not been accepted or sold very well to the industries and businesses of the state. During the life of this cooperative organization, we did materially increase the proportion of college men being taken on by the businesses and industries of the state, particularly in Atlanta. After operating six years, the office was closed about a year ago when each of the leading colleges established its own personnel office in the college. An interesting point is that other movements of that kind have taken place in different parts of the country from time to time, particularly in the east, but that not one of them has survived very long.

Providing Information Concerning Business to College and University Students

By

W. H. Cowley, *Professor, College of Education*
The Ohio State University
W. H. Winans, *Industrial Relations Manager, Union Carbide Company*
G. H. Estabrooks, *Director, Placement Bureau, Colgate University*

Introduction

TODAY there are almost a million students in American colleges and universities. About one hundred thousand of them graduate yearly, and the great majority enter upon business and industrial careers. The metamorphosis of these many thousands from relatively irresponsible undergraduates to effective members of society becomes each year a more insistent problem. It is a problem of urgent importance for industry, and it is, perhaps, the most urgent problem in the lives of the graduates.

Industry, during the past decade, has fortunately come to grips with the problem. Large businesses especially are recognizing that every college graduate who quits before his productive days begin represents a financial loss of several hundred or even several thousand dollars. The expense of training individuals for productive careers is not small, and even in prosperous times business organizations are interested in spending money only on individuals who are later to become effective members of their staffs.

Rapid adjustment to a vocation is similarly the ambition of the graduate. He is interested in becoming established not only for financial reasons but also for numerous emotional reasons. It has been demonstrated at Yale University, for example, that individuals who have stayed with their first jobs have an average income five per cent higher at the end of four years than those who have made one change, and seven and a half per cent higher than those who have made two or more changes. Most graduates are not aware of these salary differences dependent upon their early establishment in permanent positions, but college personnel offices are putting the facts at their disposal with the inevitable result that the natural desire to find one's niche is being further fortified.

It should be pointed out that the problem of adjusting these one hundred thousand graduates to their vocations is yearly becoming a more pressing problem. This is true chiefly for two reasons: a crowded market, and fewer opportunities for individuals to set up their own businesses.

Each year more college graduates are in the job market. In 1900 there

were two hundred and twenty-four thousand students in American colleges and universities, and about forty thousand graduates, less than half of whom entered upon business careers. Back in 1910 President Lowell of Harvard pointed out that Harvard graduates were slowly, but very certainly, changing their career trends from the professions to business, and the tendency since his study has been even more marked. The student of today, as a result of this trend toward business, is finding it much more difficult to become established. Each year the number of competitors is larger, and the range of choice more complex and baffling.

It is perhaps not necessary to elaborate further upon the importance of concentrating all our available intelligence and energy toward helping the college man and the college woman to rapid vocational adjustment. It is platitudinous to observe that industry's most important assets are the personal and intellectual attributes of its men and women. During the past decade acknowledgments of this responsibility by industrial personnel people have been made many times over. Acknowledgments have similarly been made by college and university administrators who recognize their responsibility for cooperating with industry toward the end of helping their products to find their places in society. It is the purpose of this report to review what both industry and education have done and to propose how both may more effectively cooperate in the future.

Methods of Giving Vocational Information

Since the importance of this adjustmental problem first began to engage the interests of college people, half a dozen techniques for getting over vocational information to students have been evolved. The authors have studied each and present the following evaluations:

1. The Lecture Method: Almost everyone has had some experience with the lecture method of informing students of the opportunities available in various types of business specialties and business organizations. The usual practice is for a college or university to invite a physician to talk for an hour about medicine, an advertising man to talk about advertising, a production executive about production, and so forth. This technique, however, is not especially effective. Only the high spots of an occupation can be discussed during the course of an hour's lecture. Moreover, the personality of a speaker too frequently colors the information given, and as a result it often happens that students are stampeded into decisions for or against an occupation, when ideally their judgments should be reached after careful analytical thought. Nor is the technique economical either in time or money. Students must attend many lectures in order to learn about the major occupations they are considering, and even the most ideal of lecture programs would leave large and serious gaps. Frequently it is necessary to compensate

speakers, and certainly the amount of time taken to administer the lectures is not commensurate with the results obtained. Furthermore, many institutions, particularly the smaller colleges located in rural communities, are not able to secure the services of qualified speakers to address their student bodies. All these factors considered, it does not seem that the lecture method of putting over occupational information can seriously be relied upon.

2. Summer Employment: Not a few universities have urged that their undergraduates use their summers for vocational try-outs; that is to say, the student interested in selling is urged to spend a summer as a salesman, and the student interested in engineering is similarly urged to find a factory job. This is a most successful method for students to collect vocational information, but, unfortunately, it has several limitations: 1. Many self-supporting students must spend their summers in the most lucrative type of employment available regardless of its relationship to their ultimate vocational choice; 2. There are not enough summers during the college course to permit students to have try-outs in all of the occupations in which they may be interested; 3. Industry, even in its heyday, is not organized for the universal application of this method. This technique should therefore be encouraged; but it should not be depended upon as a major method of acquainting students with vocations.

3. Inspection Trips: College personnel offices in numerous institutions are sponsoring inspection trips to the plants and offices of various business organizations. This is a desirable plan but one which is subject to most of the limitations of summer employment.

4. Co-operative Education: The Engineering College of the University of Cincinnati, Antioch College and numerous colleges of commerce and administration require that their students spend part of their college years in industry. It is not necessary, perhaps, to describe more fully the Cincinnati and Antioch plans of cooperative education. Personnel people are familiar with the scheme. The authors, while anxious to see the method more widely employed, believe that it can never become universal and for that reason canot be depended upon as a method of giving vocational information to the majority of students.

5. Recruiting Trips: When employment representatives of large business organizations go to college campuses, it is inevitable that they should give some limited vocational information to the students with whom they talk. Obviously, however, this cannot be relied upon as a significant method of giving vocational information since the recruiters are primarily interested in talking with men who have already expressed an interest in their businesses. They are too pressed for time to give much attention to the large number of students who have not yet made clear-cut decisions.

6. Interviews with Successful Men and Women in Various Occupational Fields: Several educational institutions, notably Boston University, have arranged for successful alumni to talk with students who have expressed interest in their particular vocations. This is often a successful plan, but it is only practicable for students who have already made basic decisions. Alumni are not interested or qualified to talk with students who are very much up in the air as to whether or not they should be physicians or advertising men or engineers. Moreover, it has been the experience of college personnel people that alumni interest wanes and that it is possible to keep but a very small number of men continuously interested in interviewing students.

7. Vocational Monographs: By vocational monographs is meant careful, detailed descriptions of occupations. To date but a very few really good vocational monographs have been produced, but *down this road lies the most effective method of getting over vocational information to students,* because:

1. All occupations can be described in monographs.

2. Students can take as much time as they need to study each monographic description.

3. Students can make comparisons between occupations from the objective data presented.

Therefore, of these seven methods of supplying undergraduates with occupational information, monographs are far and away the most satisfactory. We would urge that the other six methods be employed to supplement monographs where practicable, but in general industry and education should both focus their attention upon the production of more and better monographs following standard specifications to be set up and agreed upon.

What Has Been Done Toward the Production of Monographs

The agency in American life most concerned with the vocational adjustment of college students is the American Council on Education. Five years ago the American Council appointed a committee of six educators to canvass the same problem we are discussing. That committee came to the same conclusion that we now present: i.e., that monographs present the best method of informing students of vocational opportunities and requirements. The committee worked for several years, and late in 1930 submitted a twenty-thousand word report to the Council reviewing its activities and presenting its recommendations. The program proposed by the committee has been unfortunately delayed pending the raising of funds for its execution, but its recommendations are still valid, and we should like at this time to review the major factors in the proposed program.

After an appropriate introduction to the problem, the American Council

report defined four types of vocational monographs for college students. These are:

1. Business and Industrial Specialties: Monographs which describe the business specialties, i.e., skills which are transferable from one business unit to another; for example, accounting, advertising, buying, operation, sales, personnel, traffic, statistics, credit, the various engineering specialties, etc.

2. Business and Industrial Organizations: Monographs which describe corporate organizations such as the American Telephone and Telegraph Company, the United States Steel Corporation, the National City Bank, and similar national enterprises.

3. Business and Industrial Units: Monographs which describe units made up of many corporate organizations; for example, department stores, the clothing industry, railroading, commercial banking, industrial banking, the steel industry, etc.

4. Non-business Specialties: Monographs which describe specialties not directly connected with commercial enterprises. These include law medicine, dentistry, social work, librarianship, education, veterinary medicine, etc.

Having in this fashion defined the types of monographs necessary for college students, the American Council report proceeded to discuss the functions of vocational monographs:

1. To bring together complete vocational information for college students.
2. To present the data in such clear and readable form that the monographs may be read with profit by any college student, be he freshman or senior or secondary school upperclassman.
3. To present information concerning training required so that students in setting up their college programs may have information concerning the courses they should take in preparation for particular occupations.
4. To present the data in such form that college personnel counselors may use them in their work with individual students or in occupational classes.

Continuing with the problem the report outlined the scope of monographs, and proposed that every monograph should discuss three major factors:

1. The history of the occupation.
2. The organization of the occupation.
3. The status of college graduates within the occupation.

In the history section the report proposed that the writer should put the occupation into historical perspective, thus giving the reader an overview of the occupation in relation to modern life, and presenting general statistics about the occupation at the time of the writing of the monograph. In

detail the historical portion of each monograph would include discussions of the origin of the occupation; the evolution of the occupation to the present, including descriptions of the factors affecting its growth; the relation of the occupation to modern life, and to allied occupations; the number of people employed, by sex and training, using census statistics and any other available information; the amount of money invested in the occupation, both at the time of writing, and during other decades or centuries; general statistics comparable to the number of telephones in use, number of libraries in existence, the number of storage batteries manufactured, etc. and, finally, a discussion of the future of the occupation since improved methodology and other influences are every decade making for important occupational shifts.

In the section dealing with the organization of the occupation the report proposed that the reader be informed of the functions performed by the occupation and the various types of organizations developed to perform these functions. It is proposed that specific details be given in outline form and that organization charts be used wherever practicable. This section would be quite lengthy even though the space that it takes to describe it is brief.

The section concerning the status of the college graduate within the occupation would concern itself with the types of work college graduates perform; the remuneration they receive over various periods of time; the conditions of their employment, such as hours of work, pensions, vacations, training required, miscellaneous compensations and limitations, interests of the occupational group as a whole, desirable aptitudes, and, finally, the status of women in the occupation.

The American Council Group was of the opinion that the emphasis should be factual and statistical, both for the sake of brevity and completeness. It pointed out, however, that statistics, of course, cannot make up the entire content of a monograph. It suggested that tables and graphs should be held together by narrative paragraphs, but that these should be as brief as possible. In general the monograph should be a combination of factual data and careful, clear, and able writing.

This brief resumé summarizes the proposed organization of monographs, and it is in point now to review the projected plan of production. It has been suggested that a Bureau of Occupational Analysis be established as a unit of the Council and that it employ a staff to produce a large number of monographs. It is proposed that the director of this bureau with his assistants perform the following functions:

1. To contact industrial, business, and professional groups and to interest them in collecting and supplying vocational data.

2. To bring and keep up-to-date the Parker and Moyer vocational bibliography.

3. To write monographs and to arrange for the writing of others.

4. To edit all American Council on Education vocational monographs and to supervise the writing of all such ventures sponsored by the American Council.

5. To serve as advisors for the production of monographs not directly sponsored by the American Council.

6. To perfect the tentative specifications for the collection of vocational information already agreed upon.

7. To perfect the tentative specifications proposed for the writing of vocational monographs.

8. To carry on a more exhaustive study of student reactions to the monographs already produced and to those written in the future.

9. To promote throughout the colleges the use of the monographs published by the Council.

10. To be available to college, industrial, and personnel officers throughout the country on matters pertaining to vocational information for college students.

It has furthermore been suggested that the proposed Bureau of Occupational Analysis produce two books: first, a volume to be called "Choosing a Career," and, second, a volume to be called "Preparing for College." The first of these would be divided into three parts:

1. *Analyzing oneself:* A description of techniques that students might use to analyze their intelligence, health, interests, abilities, aptitudes, emotional stability, extroversion and introversion and other dominant traits.

2. *Analyzing occupations:* A discussion of the organization of the work of the world, and the distribution of college graduates in various occupations and professions, together with criteria for evaluating occupations.

3. *Techniques for securing a position:* A discussion of how college students should proceed in looking for employment, and what pitfalls and fallacies they should avoid.

These in general are the proposals listed in the American Council report. They may be summarized as follows:

1. That vocational monographs are of four types as named.

2. That the functions of these monographs are four as named.

3. That all monographs be divided into three sections as named.

4. That a Bureau of Occupational Analysis be established as a unit of the Council for the production of monographs.

5. That the proposed Bureau also produce two volumes: "Choosing a Career"; "Preparing for College."

Since the program proposed for the American Council is, at least temporarily, held up, the authors feel the urgent need of some immediate course of action to provide for the interim between the present and the initiation

of the suggested Bureau of Occupational Analysis. There are, therefore, several specific recommendations that the authors would like to make. They are:

1. That the American Management Association appoint a committee to wait upon the American Council on Education and to urge that the proposed program be undertaken at the earliest possible moment.

2. That this committee of the American Management Association cooperate with the American Council on Education in urging upon philanthropic foundations the desirability of making funds available for this most important undertaking.

3. That the American Management Association committee canvass the possibility of raising funds from industry and from public spirited individuals for the establishment of the proposed Bureau.

4. That the group here assembled go on record as in favor of the production of vocational monographs by some central agency be it the proposed American Council Bureau of some other organization. This proposal is especially stressed since only a central agency could set up and administer desirable standards, and because a central agency would need to develop the counseling facets of the vocational adjustment problem. Giving vocational information to students is but half of the larger problem of vocational adjustment. Individual students need individual counseling and assistance in the appraisement of their abilities and limitations. The informational objective meets this *desideratum* only partially. A central bureau could assist personnel officers in developing the personal facets of vocational adjustment along with the production of monographs.

5. That the American Council Bureau, or whatever other bureau be established, undertake as its first responsibility the writing of the proposed volume, in loose-leaf form, entitled "Choosing a Career." It seems more desirable to produce such a general volume before the specific occupational monographs, since each monograph would need to be predicated upon investigations that would take many months to complete. Money might be made available for the production of such a volume by selling space in it to large corporations for dignified and appropriate occupational descriptions. Many corporations now produce their own booklets. The proposed volume would save time and money, and would have the added value of being in standard and brief form for easy reading and prompt reference by students.

The great importance of giving college students adequate and complete occupational information cannot be over-emphasized. The resulting saving of time and money and the avoidance of emotional wear and tear, both upon employer and college graduate, would ramify in many desirable directions. We are particularly anxious for the appointment of an American Management Association committee to wait upon the American Council on Education and to canvass thoroughly the possibility of establishing a central

bureau for the exploitation of this eminently practicable and urgently necessary undertaking.

MR. ESTABROOKS: There are two points of great significance to an individual placed in charge of vocational guidance on the campus. The first is the ignorance on the part of students as to what industry is or what industry demands. Secondly, there is a peculiar lassitude on the part of the faculty regarding the interests of the student.

At Colgate we are conducting an experiment in which a member of the faculty devotes one hour a week, individually, to five freshmen. In order to guide the boys adequately he advises them, outlines reading, etc. There are seven faculty men so chosen, all young men, covering 35 freshmen. The matter of vocational adjustment never seems to occur to these advisors. They will take those boys, guide them along this line, describe reading along that; but some of them have quite frankly made the statement that their interest is limited to guiding the boy in his college life. They feel in no way responsible for adjusting that boy to industry. The best means of imparting information is through vocational monographs. But we have yet to work out some method of getting the boys to study those monographs after they are written. It can be done. But even the youngest members of the college faculty seem disinterested.

MR. CRAWFORD: It is important to furnish the student's advisors, whether on the faculty, in the personnel office, or wherever they may be, with some sort of information which will enable them to introduce him to the problems and functions of industry, business and professional life. One reason why members of the faculty and others fail to do this now is because they are not familiar with the subject. It is exceedingly difficult to get this sort of information. The monograph plan will not automatically solve this problem because such problems can only be solved through the intelligent interpretation of informational material. In order to approach the problem properly, it is first necessary to obtain factual data upon which the subsequent interpretation and guidance will need to be based. That is a very difficult thing to do. Some industries, some individual companies, cooperate in this respect. Others do not.

Selection seems to me to be the second need of the college personnel officer when he looks towards industry. The first thing the colleges expect of industry is information, and the second is selection. Before getting the kind of selection I have in mind, we all need a more definite study by industry of *what men are going to be selected for.*

MR. MORRIS: In Ohio we have 30 or 40 colleges. In a great many in-

stances in the last ten years the colleges have invited professional and business men to talk to the student body as a whole, and afterwards answer questions of individuals and, at the individuals' request, give private interviews, on general subjects having to do with the choice of vocation. No recruiting, no immediate employment is involved.

I have found these contacts extremely interesting. I found there was considerable factual information I could give the students, and also was able to help them discover the way in which they could use that factual information in solving their vocational problems for themselves. The personnel man in industry can make a real contribution and at the same time add a great deal to his own development by such meetings.

He is able to point out from his knowledge not only of his own business but others, what the satisfaction values in different occupations are, what some of the unpleasant phases are, the price that has to be paid for success in a particular occupation or profession, so the boy can weigh for himself whether or not those satisfaction values will compensate him.

MR. F. C. W. PARKER (Kiwanis International): How shall vocational counseling, as distinct from vocational information, be given college students?

DR. COWLEY: I should like to stress the distinction between vocational information and vocational adjustment. Vocational information is a means towards the end of vocational adjustment. In order to achieve occupational adjustment, of course, one must have definite instruments and information. Our paper proposes a method of supplying descriptions of occupations, but we also need instruments to assist students in determining their abilities, aptitudes, motives, and interests.

Dr. E. K. Strong of Stanford University has devised a test known as the Strong Vocational Interest Test. He has given it to numbers of people in various occupations to discover range of interest. The student may then compare his interest pattern with those of the various occupations in which he is interested. That is an attempt at vocational adjustment. Other attempts are made by means of intelligence and aptitude tests.

Some years ago one of the large soap manufacturers made a study of the qualifications of the successful soap salesman. They had been hiring a number of college graduates for these selling jobs. As a result of this investigation, they hired no more. Their study proved that their most successful salesmen were high school graduates who came from a small town, and who had had some experience in a small store, helping to support themselves during high school years. They discovered the college graduate was not successful because he had ambitions which selling soap would never satisfy. Consequently, he was eliminated.

Other examples might be cited. The point I should like to emphasize is that in engineering problems, techniques, instruments and devices must be set up in order to measure; likewise, it is necessary to measure the qualifica-

tions of students. The Strong test is one such technique. We shall never go very far toward the solution of these problems until we develop and apply scientific instruments of measurement.

Stevens Institute has set up a summer camp for high school juniors and seniors, in an attempt to do this measuring.

Johnson O'Connor, Dr. Bingham and several other psychologists who are interested in attempting to measure quantitatively the qualifications of students, have been brought to the camp. The various divisions of the engineering profession are also described to the students in an attempt to inform them before beginning their curricula. The orientation is both vocational and educational, testing the boys out with practical experience as well as with the tests.

MR. DOOLEY: It is true that industry is looking for men and in the end we have something to say about the selection, but my sympathies are 100 per cent with the young men, notwithstanding the qualifications as to the kind of men we should like to have. The man has only one life to live; mistakes are rather terrible to him; it does not make very much difference to the company—it can easily let one man go and get another.

Employers should present the information in some way—by monograph, by brief talk, by personal interview, or other ways—and then let the student make his own choice alone. The men should have the facts spread before them unbiased. Don't try to sell the man your company. Don't dress it up with too much glory. Give him the facts clearly, and let him select you.

A two-page monograph is long enough for most concerns considering the fact that 200 or more different companies might submit them.

I do not believe a boy will plow through 1,000 or more pages and make an analysis. He will do something with it, of course, but I should not worry much if he didn't use it. After all, what difference does it make in the long run if a man happens to be with an oil company, an electric company, a railway company or a department store, if he has had a chance to get a birdseye view and then reach an intelligent decision?

MR. E. F. COY (Westinghouse Electric & Manufacturing Co.): When I was interviewed while a student at M. I. T., I was terrified by the number of representatives who came to the school. They oversold the idea to me. I did not know whether to go with one of these companies or go out and find someone not trying to sell me his company. I was also impressed by the fact that although they tried to sell their company, they gave very little real information about it.

MR. REES: It is fundamental that in industries, large and small, we want the very best brains we can find, and that there should be proper distribution of this high quality potential leadership. There is a problem of distribution in this matter of getting quality spread throughout industry. We must encourage more widespread opportunity for the able young men and women

who are carving out the beginnings of their careers through educational effort.

Let us bear in mind this one ultimate objective—to bring all the youth of the country step by step up as far as they can go; get those who are more physically than mentally inclined early directed toward practical life careers which will satisfy their interest; get those with high mental capacity to go on to the limit in their development. Every industry in the country should have an interest in this subject, whether it needs one man a year, ten, twenty or several hundred. Let us encourage the development and the training of the best brains that we have amongst the youth of the country, and let us have them distributed where they can do their best work to make our whole society more highly efficient; and let us see that every employer who needs the high quality man we have been discussing, gets him—large industry, small industry, trade—in every field of endeavor. This will tend to raise the whole standard of efficiency in the productive effort of our nation.

The Employment Procedure

By

C. S. Coler, *Manager, Educational Department*
Westinghouse Electric & Manufacturing Company
R. C. Clothier, *Dean of Men, University of Pittsburgh*
J. D. Beatty, *Secretary, Bureau of Recommendations*
Carnegie Institute of Technology

CONSIDERED from the elementary standpoint, the procedure in employing men from colleges for industry consists in filling each available position in an organization with the most suitable man from the standpoint of type and ability. As the size of both industrial organizations and colleges has increased, the procedure of employment has become complicated to the extent that satisfactory results depend more and more upon an intelligent understanding by everybody concerned of the factors which enter into the problem. The carrying out of each step in the procedure on the highest possible ethical plane is no less important. Both the educator and the employer should consider the interests of the student, as a prospective citizen and as a prospective member of our national industrial and business structure, of even greater importance than immediate school or company interests.

Employment of College Graduates

The employment of college graduates differs from general employment, in that the objective is usually general rather than specific; the economy is future rather than present; the time of employment is determined by gradu-

ation rather than specific job requirements; and the place of employment is at the college rather than in the employment office.

The initiative may be taken by the company, by the school, by parents or friends, or by the graduate himself. When business conditions are unusually good, there is a tendency for the company to take the initiative and, under certain conditions, the search for men with ability may become so highly competitive as to interfere with the best interests of the students. On the other hand, when business is unusually depressed, schools have to exert initiative in the placement of their graduates, even to the extent that the individual interests of some students may be overlooked. At all times placement and employment officers are faced with the problem presented by over-zealous parents or friends. It is believed that, in general, the best interests of graduates are conserved when they have to exert a considerable degree of initiative in their search for jobs.

The Employment Procedure

The employment procedure starts with the analysis of the company's needs and ends with an employee on a job satisfactorily performing work in which he is interested and which offers him adequate opportunity for self-development and corresponding prospect of advancement. The whole procedure may be divided into nine distinct and separate phases:

1. Job analysis
2. Annual determination of needs
3. Preliminary presentation
4. Interview
5. Examination
6. Decision
7. Training
8. Allocation
9. Follow-up

Job Analysis

In general work may be classified as manual, clerical, semi-technical, technical and supervisory. The ultimate objective of college men usually is placement in the latter groups, though a general practice is the use of jobs in the earlier classifications for the training and development of the graduate. In general it is not good practice to try to place the college man in a permanent position which does not offer him an opportunity to utilize his educational equipment.

Annual Determination of Needs

Because of this consideration, it is important that an organization carefully determine its needs for college men each year, as a basis for the employ-

ment program. The job analyses must be translated into the types of men available in the colleges, both from the standpoint of aptitude and interest. These types generally correspond to the functional divisions of industry such as research, engineering analysis, sales, manufacturing, operating and accounting.

Preliminary Presentation

Where an estimate of the needs indicates that a considerable number of graduates should be employed, some preliminary presentation of the problem to the colleges is usually considered advisable. Such presentation may take the form of advertising, lectures, pamphlets describing the company and its needs, or scouts. In other cases the presentation may consist in service to the colleges by supplying laboratory equipment, problems illustrative of practice in the field, summer employment for undergraduates, or conducting teacher conferences.

Interview

The preliminary presentation is usually followed by an interview in which the representative of the company meets the interested student for the purpose of interpreting the requirements of the business to him and estimating his qualifications for the work. This interview may be held in the employment office, or at the school. The place is determined usually by the number of men needed or the difficulty of securing men with special aptitudes or abilities. The practice of recruiting graduates at the colleges has the advantages of:

1. Facility and economy to the student
2. Personal contact between student and employer
3. Personal contact between members of the faculty and employer
4. Ready access to records.
5. Determination of the attitudes of other students toward the individual
6. Presentation of opportunities to a larger number of prospective applicants.

The disadvantages are:

1. Interruption of the college program
2. Distraction of the student's interest from his studies
3. Excessive number of offers of employment for the better men
4. Difficulty of arranging suitable schedules for visiting representatives
5. Lack of suitable quarters for interviewing.

A survey of the practice of interviewing indicates that, in general, the recruiting period is confined to the spring semester of the senior year. This enables the visits of representatives to the campus to be arranged without excessive overlap. At the same time it concentrates the visits sufficiently to enable

the student to become acquainted with the various opportunities without unduly delaying his decision.

Examination

Following the interview, the customary practice of employment managers is to examine in detail the records which the eligible men have made in college. An estimate of aptitudes and interests is secured from the members of the faculty. Before final employment, a physical examination is usually required.

Decision

Some companies make it a practice to offer employment to those members of the senior class who, they believe, will qualify for the positions available. Other companies prefer to give the student information regarding their work and opportunities, leaving it to him to apply for a position with the company after becoming acquainted with other available opportunities. In either case a reasonable length of time should be given for securing the additional information necessary for an intelligent decision. Usually this interval should extend from a minimum of two or three weeks to a maximum of two or three months.

Training

The graduate, upon reporting for work, may be assigned immediately to a regular position in the organization or rotated from job to job, according to a definite schedule. This training may extend for a period of from three or four weeks to one or two years. It is usually considered that some supplementary program of development for the individual is a necessary part of the employment procedure. The more pretentious programs attempt to provide a continuous development program, consisting not only of technical courses but also of instruction in the cultural subjects. Such courses are given either by the company or by local educational institutions.

Allocation

As a general rule it is desirable for the young graduate to determine a specific objective at the earliest possible time. One of the advantages of considering the first few months of employment as a training course is that it enables the company to estimate better the aptitudes and interests of the student, and enables the student to estimate the requirements and potentialities of the available jobs. In certain instances an arrangement is made for the student to try the kind of work for which he thinks he is best suited before making the final decision. In general the final allocation is determined by the mutual decision of the graduate and the executive concerned.

Follow-up

In those organizations in which the employment procedure is best organized, the progress which the young graduate makes in his work is checked, the checking sometimes continuing for several years. It usually takes the form of a record of accomplishment, the checking of promotion, responsibility and salary, and a study of turnover.

Difficulties Common to the Employment Procedure

Although the successful applicants far outnumber those which for one reason or other fail, in the normal procedure of adjusting college graduates in industry, we believe it will be helpful to those who are vitally interested in the problem of placement to consider some of the difficulties which are encountered in carrying out the employment procedure.

The following are given with no attempt to classify them either according to kind or cause:

1. Capacity of student not suited to requirement of job.
2. The square peg in the round hole.
3. Graduates not available at the time jobs need to be filled.
4. Inaccurate estimate of its needs by the company.
5. No opportunity for the man in the ranks to rise.
6. Too many men from the same school in one company.
7. Insecurity of work due to extreme fluctuations in business.
8. Lack of information as to location of available jobs and suitable men.
9. Inaccurate presentation of job to graduate by school or company.
10. Too many employment officers at the school at the same time.
11. Going around the functional organization.
12. Discrediting the other fellow's proposition.
13. Excessive cost due to excessive competitive activities.
14. Unnecessary extension of the recruiting season.
15. Inaccurate presentation of student by himself or by school.
16. Duplication of effort in securing information regarding students or jobs which should be available readily to all.
17. Poor health.
18. Decision of student required before he can become familiar with other opportunities.

19. Too many offers of employment for the better students.
20. Failure satisfactorily to meet the needs of the small company.
21. Acceptance of two or more jobs at the same time by the student.
22. Failure of the student to report as agreed.
23. Too much or not enough initiative on the part of graduate.
24. Insufficient opportunity for continued development of graduate.
25. Too much done for the student or graduate.
26. Unnecessary geographic redistribution of graduates.
27. Too much competition between the divisions of a company.
28. Pay not commensurate with ability and responsibility.
29. Insufficient opportunity for promotion.
30. Unadvised disturbance of the graduate—executive relationship.
31. Excessive unnecessary turnover.
32. Too many or too few suitable jobs available in the country.
33. Lack of cooperation between placement officers and employment officers.
34. Lack of appreciation of the other fellow's problems.

Some Determining Factors

In view of the complexity of the employment procedure, the whole matter can best be comprehended by isolating the various elements which enter into the problem.

Recruiting and Training College Men for Selling

By Bevan Lawson, *Executive Sales Manager, Dictaphone Sales Corporation*

LATE in the fall of 1927, Dictaphone Sales Corporation considered the desirability of trying out a plan to recruit our sales organization from college seniors due to graduate in June, 1928. Practically all of our higher executives are college men, and therefore they knew that a large number of industrial concerns send representatives on a round to certain colleges, each spring, for the purpose of selecting men for entry into one or another department of their business. Inquiry brought information that in a majority of such instances men are taken with the understanding that they will be given preferred opportunity to attain executive position through direct stages of promotion, if qualified to do so, but we could not secure comparable information regarding the successful outcome of engaging men who would be merged immediately into the activities of sales representation.

Planning the Training Course

Consequently, we had to consider on the one hand the handicaps of immaturity and inexperience, while on the other hand we knew that young college men would come to us with strong determination to make good, and, having acquired the study habit, would approach their first job with readiness to be influenced and guided in a straight line direction. For our part, we figured that by planning in advance a definite course of training which would fit in with a college student's mental preparedness and pre-conceived notions, we could be reasonably sure of directing his efforts understandingly and getting him headed straight. Therefore, after laying out a complete schedule for such a course, and after assigning a definite program for everyone who would take part in the instruction, we decided to organize a training school for college students, to assemble at the factory in July, 1928.

College Students' Attitude Towards Selling

Before outlining the main features in our plan for the training of college graduates for sales, it is of primary importance that an understanding be reached with regard to the college student's attitude of mind towards entry into the sales field. A misconception concerning self-qualification for selling is widely prevalent among under-graduates, and consequently they show

definite unwillingness even to consider that occupation. This disinclination is often strengthened by listening to those who have formed a negative opinion after attempt to sell a product during summer vacation without adequate training.

Scarcity of Literature on the Sales Process

This alleged test is more often discouraging than it is promotive, because such a venture, unless supervised under highly favorable conditions, may become a depressing ordeal which is likely to remain only as an unpleasant memory. Especially is this disfavor noticeable among men in university schools of business if they have subjected themselves to perfunctory experiment in selling during a brief summer period. Too often such a venture settles forever all further desire to consider selling as a profession. Consequently, it is natural that men who have been trained in the details of business administration should show preference for inside positions in which they hope to apply some of the knowledge of routine practice obtained during class work. A wide selection of text books is available for use in courses on advertising, accounting, banking, finance, production and other classified divisions of business management, and for such there is a large range of authentic data, but class study of salesmanship covers chiefly problems of business administration rather than of that personal relationship which constitutes qualification for success in selling. Nor is this situation a reproach to educators, but rather it is attributable to the fact that sales management itself has not yet standardized the requirements of salesmanship, and consequently no information on the selling process is available as teachable matter.

Remuneration

Then, again, during an early period in any occupation there is the question of remuneration to be considered, and it is natural that a college student who has no basic knowledge of sales work should lean towards a safe course of action in spite of keen desire to profit more speedily through bolder venture. The outlook of regularity in weekly wage may outweigh consideration of the possibility of a much higher rate of earnings on a commission basis.

College students need positive assurance on these points before they will be likely to be persuaded that definite opportunity is to be gained through choice of selling as a profession; hesitation because of unpreparedness for sales work will be modified if they are impressed by the fact that in no other class of commercial occupation can there be found anything approaching the degree of personal guidance and constructive assistance that is given to the sales representatives of a well-organized concern. By getting to a student's full understanding the further fact that his opportunities for personal advancement will be in ratio to his accomplishment, and that his increased earn-

ing power will be regulated by his progressive ability, then a new estimate of his underlying self will be created. Furthermore, it may be pointed out to him that there is a straight line opportunity for promotion because of the grades in supervision which lead directly to executive position; that length of service is not necessarily a dominating factor, except for the time required to obtain sales experience through repetitive practice; that the services of a competent salesman will be bid for by another concern if not recognized by the firm he is working for, and that the permanency of a salesman's position is more secure than in most commercial occupations because of contacts which he builds up, and therefore in times of stress his services in maintaining both the goodwill of his trade and the output of his product, are more of a necessity in dull times than when volume is more easily attainable.

Sales Field Not Sufficiently Exploited in Colleges

An explanation of some of these features connected with selling as a chosen career will do much to correct the prevailing misconception which induces college men to look upon selling as possibly their last resort. Provided that this misgiving could be removed by proper exchange of information which would lend attractiveness to the sales profession, a wide opening would be available to graduates in a field which has not yet been sufficiently exploited in colleges. Furthermore, if such convincing knowledge were conveyed to sophomores and juniors as well as senior students, then, in place of general unwillingness to seek sales positions, there would be a growing desire to do so, and one of the biggest problems which confront placement directors at practically every university and college would be materially solved. Therefore, those who visit colleges to select recruits for their selling organization will do well to take pains in getting over to prospective applicants two viewpoints: first, the fact should be pointed out to them that development of characteristics which they may already possess is sufficient guarantee of eventual success; second, complete details of a training program should be definitely outlined. Men who possess a self-consciousness of ability need chiefly the assurance that they will receive specific instruction which will equip them for ultimate success in their first job after leaving college.

Dictaphone Sales Course

As illustration of this second procedure, the remainder of this presentation will detail the course followed by Dictaphone Sales Corporation which has been closely adhered to for the past four years.

The plan which we adopted for the first year has since been repeated without material change each successive year. At the outset it was purely experimental. We visited colleges adjacent to Dictaphone branches located north, south, west and east, our object in going so far afield being to assign men

eventually to branches somewhat near their home towns. Consequently, we did not select many men from any one college. So far, we have not set out in any year to engage more than twenty or twenty-five students because we could concentrate on that number intensively and subsequently could observe individual progress and measure more truly the value of the method. We have never allowed ourselves to be influenced by desire or need to enlarge our sales force at any given point, but rather have estimated the opportunity afforded at chosen branches for further managerial supervision after they had received intensive preparatory training in the school. Consequently, a very deliberate selection was not only made possible, but also was necessary.

Recruiting

In the first year we accepted the arrangement usually offered by universities to interview men between classes at close intervals of fifteen minutes for each man. In subsequent years, however, we have been successful in arranging a two-day visit to each college; the first day is devoted to detailed explanation of our proposition to groups of students, brought together collectively at different intervals throughout the first day; the second day is filled with personal interviews. I want to emphasize the advantage of explaining everything connected with the offer to groups of men on the first day, with a subsequent round table discussion of all points at issue, before granting interview on the second day to those who may have been definitely attracted by the proposition. This plan eliminates necessity to outline the details repeatedly to individual applicants. There is the added advantage that the whole of the second day can be given exclusively to intensive consideration of applicants. Also, a full coverage on the first day of the qualifications required disposes of those who may be mere curiosity seekers and, having gained knowledge of these requirements, those who lack self-valuation are discouraged from taking up the interviewer's time. In the process of selection, while scholarship standing and *extra-curricula* activities are carefully considered, we look more keenly for evidence of personal characteristics which indicate inner-consciousness, rather than for external impressions and relationship. Because grace in language has to be the vehicle of successful sales contact, the degree of a young man's ability to express himself in words, and to carry along his side of the interview, is paramount. Because home environment exerts lasting influence upon a young man's future, careful inquiry is made into the family. To command consideration, applicants must evidence earnest desire to enter the field of selling or at least must justify that inclination. The characteristics looked for searchingly are mental poise, ease of mannerism, alert understanding, self-valuation, liberty of opinion, definite self-assurance and other signs of individuality which contribute to personal attractiveness. All of these indications can be brought out in the course of easy conversation which is not interrupted by the applicant because he has obtained all needed information on the previ-

ous day. Such leisurely process may not be possible for those who seek to engage a large number of men from a single university, but where extreme selection is the objective, as in our particular instance, adaptability for intensive training in the sales process hinges more upon personal characteristics than perhaps on any other consideration.

Details of Plan Should Be Explained Carefully

Another outcome of such deliberate selection is that those who accept our offer do not change their minds subsequently. In the last three years, we have not had a single disappointment when the time comes for the gathering of the class. This may be ascribed to the pains we have taken to explain every detail of our training method. This gives those who have been selected a confidence in their own adaptability to fit in with our general plan, which I shall describe as follows:

We offer to a carefully selected group of college graduates a full six months' course of definite sales training, during which period they will not be required to measure their rate of progress by early evidences of actual sales production. In other words, they will not be rated as staff salesmen until they have completed a course of training which lasts from July until the end of December. During that six months they will receive a weekly salary which is adequate for their requirements. They will be assembled in July at our factory, where we have set up a school. For the first two months they will submit to a very intensive course of training in everything connected with the sales process, under direct instruction from executives who are scheduled to fill eight-hour sessions daily throughout that period. This includes two weeks spent in the factory under our engineers and factory officials.

The Initial Period

Recognizing that men emerging from student life will quickly respond to a sales training course if it is somewhat similar in process to their class work in college, we schedule a definite program which meets that anticipation. The initial period in our school is devoted to elemental factors in self-expression; this includes the dynamics of speech, articulation, forcefulness of expression, sequence of ideas and the correction of personal mannerisms. As material for these periods of speech drill, we use the fundamental elements of sales approach and the step-by-step methods of dealing with unusual situations. The academic side of selling and the "reasons why" of definite procedure are scheduled into this initial program, with the combined result that formative background is established for all students before they are instructed in the further detail of our product. A Dictaphone is installed on each student's desk and is constantly used for intensive practice in every detail of verbal sales presentation. In all dictated matter, the student's voice comes back to him in merciless reproduction; therefore, each student is constantly under the

corrective influence of self-criticism. In his hotel room also, each man has his own Dictaphone, with result that exchange of friendly opinion during evening work is even more intimate and constructive than during class session. It would be difficult indeed to estimate the advantages afforded by this constant use of the Dictaphone in every phase of sales training. Listening back enables a beginner to measure his own progress convincingly, and at the same time reveals faults which need correction.

Practical Knowledge of Machine Construction

Upon entry into our factory, a complete change of surroundings prompts eagerness to be instructed in the assembly and adjustment of our machines. To enable each bench foreman to give individual attention, the student group is broken up into lots of three or four men, and receives personal instruction in every operation of assembly until the machines which they themselves have built are ready for inspection and adjustment; this means that they gain intricate and practical knowledge of the construction of the three individual machines—the dictating, the transcribing and the shaving units. In such work they are under close observation of the supervising engineer, the factory superintendent and members of their official staff, and finally they are given a written examination which determines the rating of their mechanical efficiency. After they have become acquainted with the mechanical set-up of our product, students come back to the school very definitely stimulated in every respect, and therefore anxious to obtain an equally exact knowledge of the selling process.

Thereupon, the next two weeks is a very busy period; into it is crowded further informative knowledge of the product and every detail connected with sales operation. Corporation policies and practices are explained, and definite instruction is given in field and branch operation. Printed and typed matter relating to process or procedure is released to them for future study and reference. In conformity with an exactly arranged program, the periods of detailed instruction are frequently interspersed with repetitive drill in speech presentation. It is noteworthy that this entire training period is time-scheduled throughout, and nothing is left to chance. If we were to trust to passing circumstances or impulse, we could not possibly cover the ground so thoroughly.

Comprehensive Review

The closing week in the school is spent in comprehensive review of everything that has preceded it. However, principal attention is given to verbal practice in approach and sales presentation. By this time it becomes quite apparent that all students have accomplished a uniformity of ability which is not surprising when we take into consideration the fact that each man has received the same individual training. In the course of the last week, men com-

mence to show somewhat anxious interest concerning the particular branch to which they will be assigned. By this time we have become intimately acquainted with the capacities of each individual student, and those who have been in charge of instruction exchange opinions upon this important question of assignments. While we adhere as far as possible to the policy of sending men to branches which are near their homes, the original agreement was that they would be ready to go wherever they should be sent. However, it is of paramount importance that the remaining four months of each student's training period shall contribute to certainty of his success; this involves consideration of potential territory and suitability of individuals to known surroundings. Even so, our advance knowledge of such local probabilities prompted selection of the colleges from which the students were drawn, and quite usually we are able to carry out the pre-determined intention.

Transfer to Branch Office

Now comes the real test of original choice and subsequent training in our school. Upon arrival at a branch, each student comes under the personal supervision of his branch manager; we make very sure of this by keeping ourselves very closely informed. After a short period necessary for his orientation in the branch office, he is given practical insight into the selling task by daily association with the more experienced representatives working at that branch. A plan for each successive day is laid out for him by the branch manager and alternatively he may go out with the mechanics who are servicing the product or with salesmen who are selling it. Frequently he accompanies the manager in his personal contacts and absorbs knowledge of situations which would not come under his observation if he were rated as a staff salesman and also were required to be self-sustaining. It must be remembered that for the remaining four months he will continue to receive a sustaining salary which relieves him of the responsibility of upkeep and frees him to gain sales experience by both precept and practice. This fact enables his manager to assign him temporarily as assistant to an experienced staff salesman. A senior salesman is glad to avail himself of the kind of aid which can be given by a student, provided he is not required to yield any part of his own earned commissions for such service. Thus, the student has access to important installations which already are in process, and shares in the detail of carrying them through. Then, too, a senior salesman will direct the student's approach to new contacts on his territory and will help him to make good in such attempts. Also, throughout this remaining four-month period, the student is required to keep in touch with his executive sales manager at headquarters through weekly letters which report unusual circumstances encountered; he also seeks advice on matters of interest or difficulty. A carbon copy of such weekly letter is lodged simultaneously with his branch manager, and similar carbon of reply

is mailed separately to the manager. This insures constant knowledge on the manager's part of the student's progressive experiences. Frequent visits of executives from headquarters to the branches also keeps us in close touch with the student's development, and altogether we have found the whole set-up to be both constructive and resultful.

Territory Assigned

Usually by November, or at latest by December, the student is considered ready to have a definite territory assigned to him. This gives him time and opportunity to do constructive work in a district which will be his own when he is advanced to the status of staff salesman. Up until the first week in January each student has been on a sustaining salary, without participation in commissions, but thereafter he is placed on a straight commission basis and assumes entire self-responsibility.

Plan Has Proved Satisfactory

Such is the complete story of the Dictaphone plan to select college students and train them for sales work. For the first year it was regarded as an experiment, but for the last three years the plan has more than justified itself. It is natural that men of university type who have been selected for their outstanding attractiveness and who have been trained in practical self-expression, should be constantly assailed by offers from other concerns. For this reason we have lost a few men—not many it is true, but a few have yielded to that kind of pressure, while the number who, in point of self-attainment, have fallen short of our expectation has been comparatively negligible.

Disinclination Towards This Field Must Be Overcome

Having evidenced the care which we have taken each year to bring to the understanding of college seniors the thoroughness of our sales training course, I feel justified in expressing regret that a disinclination to consider selling as a profession is so prevalent among college men. Each successive year I have been increasingly impressed by the fact that the few men who seek interviews are chiefly those who have no definite knowledge of what occupation they want to follow. Rarely do I find men who express a definite wish to take up selling, and when questioned closely upon their inclination to do so they tell me that perhaps they "will have to" if nothing else is available.

Consequently, I predict that if occupational advisers at our colleges will take steps to remove the general misconception of the opportunities and requirements, they will do much to relieve a large part of their own problem.

AMERICAN MANAGEMENT ASSOCIATION

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(*Continued from second page*)

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Editor, KENNETH B. ANDERSEN.....20 Vesey St., New York, N. Y.
Managing Editor, C. M. RICE .....20 Vesey St., New York, N. Y.